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ORIGINAL ARTICLES.

TREATMENT OF FIBROID TUMORS OF THE UTERUS BY ELECTROLYSIS, WITH A DESCRIPTION OF APOSTOLI'S METHOD.

Read before the Chicago Medical Society, Dec. 20, 1886.

BY FRANKLIN H. MARTIN, M.D.,

PROFESSOR OF GYNECOLOGY IN CHICAGO POLICLINIC; CLINICAL LECTURER ON GYNECOLOGY IN SOUTH SIDE DISPENSARY, CHICAGO; FELLOW OF CHICAGO GYNECOLOGICAL SOCIETY, ETC.

Unfortunately, the term "electrolysis," as applied to the treatment of disease, has been by many, for some unaccountable reason, greatly misunderstood. Because an electric battery is one of the requisites of treatment by electrolysis, the term has become synonymous with any form of electrical application, whether of the galvanic, faradic or static variety. This is a mistake. To successfully treat any particular diseased condition by electrolysis, certain scientific principles are involved, that are as necessary for us to understand as it is for an inventor to understand certain scientific principles before he can successfully construct an electric motor.

Electrolysis is simply an expression for an electrical phenomenon. It is necessary for us to have certain conditions present in order to obtain this phenomenon: 1. A continuous current of electricity; 2, an electrolyte; 3, means of conveying the current through the electrolyte. And unless we have present in every case upon which we operate these requisites, and bring them into such relationship that the electrical current conveyed through the electrolyte by means of suitable conductors will dissolve the molecules of the electrolyte into their constituent elements, we do not get electrolysis.

So far as the phenomenon electrolysis has been utilized in medicine, it has been for the purpose of removing abnormal tissue. In order to accomplish this, certain other requisites are necessary. 1, the tissue to be dissipated must be an electrolyte or contain electrolytes; 2, the tissue must be in a position where it may be electrolysized without endangering neighboring tissues; 3, its surroundings must be such as will favor the removal of the *ions* by absorption or otherwise, that have been freed by the electrolytic action; 4, some means of ascertaining the strength of the current must be at hand.

Before considering the above points more in detail, I wish to refer to two other phenomena of the constant galvanic current, which do not properly come under the head of electrolytic action, but which are utilized in the treatment of fibroid tumors. I refer, 1, to the cataphoric action of the current; 2, to the local effects of the two poles.

The subject of the treatment of fibroid tumors of the uterus by the continuous galvanic current, therefore, presents the following points for our consideration: 1. The tumor. 2. Means for generating a continuous current of electricity. 3. Means of measuring or gauging the current. 4. Electrolytic action of the current. 5. Cataphoric action or electrical osmosis. 6. Local effect of the poles. 7. The apparatus and general detail.

I. *Consideration of Tumors.*—I will not go into a long discussion of the history, causes and pathology of fibroid tumors of the uterus, because it does not particularly bear upon the subject of the evening. However, to facilitate a description of my method of treatment, I will make the old division according to location into, 1, submucous; 2, interstitial; 3, subperitoneal. The nomenclature of this division sufficiently explains itself. To still further expedite matters, allow me to divide these tumors according to their condition, into the hæmorrhagic and the non-hæmorrhagic. By hæmorrhagic we will include those tumors that produce from a simple excess of the menstrual flow to the most alarming continuous hæmorrhage. The non-hæmorrhagic will include all others.

II. *The Current.*—The current of electricity used in electrolytic therapeutics should be one of moderate quantity compared to the intensity. It should be very uniform and without interruption. The direction of the current should always be known. Any means of generating electricity that will be practicable, and at the same time answer the above requirements, will be suitable for our purpose. I have found nothing better than some form of the chemical battery. In the beginning of my work with electrolysis I used some form of the ordinary zinc and carbon battery with a solution of dilute sulphuric acid and bichromate of potash. For purposes of epilation, strictures of the urethra and uterine canal, and other of the smaller operations, this battery answers the purpose admirably, where it is properly cared for. For accomplishing more decided work, however, this variety of battery becomes impracticable, because of the labor required to keep it in proper order. The results of my experiments have led me to adopt for office purposes the ordinary crowfoot gravity cell. This cell is furnished to me by the

McIntosh Galvano-Faradic Co., of this city. These cells are coupled in tandem, and connected with a selective switch board arranged in such a manner that any number of cells from any part of the battery can be brought into the circuit. A large number of these cells can be placed in a closet or other convenient place and attached to the switch-board by means of a cable of wire. The storage battery can be utilized for this purpose, but is as yet impracticable for long and constant work. The dynamo has been suggested, and will without doubt, with time and improved motors, take the place of all other forms of generating electricity for office use, both for cautery and, with proper resistance coils, for electrolytic work.

Fig. I.—McIntosh's Milliampère Metre.

III. *Measurement of Current.*—With the advance in electrical therapeutics we have found it necessary to adopt some means of measuring approximately the strength of current employed. Especially is this desirable when the enormous strength of current is used that is necessary in the treatment I am describing. It is unwise to employ a current of more than 25-milliampère strength through the vital tissues of the body, without being in a position to watch every variation of intensity, and this can only be determined with accuracy by the employment of a galvanometer (Fig. 1). I take pleasure in being able to exhibit a galvanometer to the Society this evening that answers all requirements for therapeutic purposes. This instrument was constructed, after a large amount of work and experimentation, by Dr. McIntosh, of the McIntosh Galvano Faradic Co., of this city. It has been graduated in the presence of an absolute galvanometer, and each instrument that is constructed is graduated by actual comparison in the same way, which is a point that is absolutely necessary if accuracy of measurement is to be obtained. Many of the galvanometers that have been thrown upon the market of late, for medical purposes, have been little better than worthless. This instrument is graduated for milliampères, and will measure accurately a current from 1 to 1,000-milliampère strength.

The maximum current that can be safely passed through the body, consistent with our present experience and knowledge, is about 1,000 milliampères. To get this power I use a battery composed of 115 gravity cells.[1]

IV. *Electrolysis*, the principal action that we seek in causing the absorption of fibroid tumors or any other pathological growth, is not a new phenomenon in electro-chemistry. This action has been utilized in the commercial world for a number of years, and its value is constantly increasing. The same principle that is used in electro-plating can be made valuable in medicine, in relaxing the loosely combined elements of a fibroid tumor and causing their deposit where they will be carried from the system.

A strong current of electricity is passed through a growth of this character, and in its substance it finds many electrolytes which are dissolved into their constituent elements. These elements, according to their electrical tendencies, travel toward the negative or the positive pole of the battery, and may be disposed of in the following four ways: 1. "Many of them immediately make similar or dissimilar combinations with neighboring elements of opposite electrical tendencies, making thereby new compounds which act as foreign particles; as foreign bodies they are promptly removed by the nearest absorbents. 2. Other elements, as they become free from their original molecules, make combinations with elements which are already leaving the tissues through one of the innumerable minute vascular canals. 3. Many, in the form of gas, pour into the atmosphere beneath and surrounding the electrodes. 4. Others attack the electrodes and are disposed of in the form of deposit on their surfaces."

The cataphoric action of the galvanic current should also be recognized as playing its part in the promotion of absorption. It is by this property that fluids are determined in mass from the positive to the negative pole. This action, in producing an unnatural turgescence of fluid at the negative pole, favors its osmosis into the surrounding absorbents, and thereby accomplishes its removal.

The local effect of the current at the two poles of the battery is very different with a high tension current. The effect of the positive pole is termed by Dr. Apostoli the galvano-caustique effect of the positive pole. This is an action of a great deal of importance, and from which a great advance is contributed in the treatment of hæmorrhagic fibroid tumors of the uterus. The phenomenon is obtained only by the employment of a very strong current, from 50 to 1,000-milliampère strength, and concentration of this current at the point of contact of the positive pole of the battery to the tissues. This electrode must be of small size, and of some unattackable metal. The effect obtained upon vascular tissues or mucous membrane by thus concentrating the current is to produce an eschar. This eschar, however, if the current has been proper, will be found to be simply a coagulation and a hardening of the mucous membrane and the tissues beneath it for some little distance. This process of contraction and coagulation modifies the calibre of the vessels of the circulation so that hæm-

[1] Since writing the above I have been able to use still higher currents in special cases.

orrhages are less liable to occur at the point of application; at the same time it does not destroy the circulation sufficiently to produce strangulation and death of the part. There is nothing that will so effectually stop all forms of excessive hæmorrhages or leucorrhœa, without producing a troublesome slough, and a subsequent contraction, as this particular application of electricity when made to the mucous membrane of the uterus.

The local effect of the negative pole is the opposite of that of the positive when the current is strong and concentrated. The action of this pole is one of liquefaction instead of hardening and coagulation. Its eschar resembles much that of a caustic alkali.

V. *The Electrodes* used in the treatment of fibroid tumors by Dr. Apostoli's method are few in number. Two electrodes are always necessary at every operation. One of these is applied externally on the surface of the body, the other in some form internally. Where powerful currents are employed, such as I have described, the first object is to devise means of conducting them through the parts desired, without producing harm to innocent tissues, or pain to the patient. One pole, the internal, is usually the active one. This is either a sound that fits accurately the uterine canal, or a pointed electrode which enters a presenting portion of the tumor. This is constructed of unattackable metal, platinum when in form of sound, platinum and iridium when in form of needle.

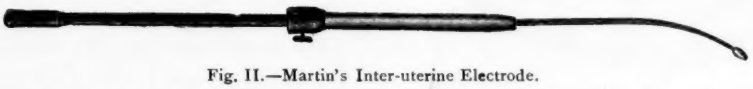


Fig. II.—Martin's Inter-uterine Electrode.

Some means of insulating the vaginal portion of the electrode must be devised. (Fig. 2.) Needles used in electrolysis should be insulated up to within one inch of the point in order to protect external tissues. After the proper internal electrode has been selected and placed in position, and before the current is turned on, the circuit of the battery must be closed by applying some form of convenient electrode externally that will give the minimum resistance without excessive pain. This has been one of the most difficult things to accomplish in the use of strong currents. This external electrode should be placed upon the abdomen in as close proximity to the internal one as possible. It should have a large surface in order to diffuse the current. All parts of the surface should conduct equally, and fit accurately into all irregularities of the surface.

Dr. Apostoli at last hit upon the following plan, which he has found to answer the purpose perfectly: A mass of potter's clay is made about into the consistency of soft dough by moistening with water, and is then spread upon the abdomen of the patient in a mass an inch or more in thickness. This is connected with the battery by placing upon its free surface a plate of soft metal with appropriate connections. This apparatus, while it answers the purpose, is a very inelegant form of electrode. In this direction I am able to offer a very decided innovation. Dr. McIntosh has succeeded in constructing for me this electrode (Fig. 3). A concave disk of soft metal, of appropriate dimensions, has loosely stretched over its concavity an animal membrane which is fastened to its circumference securely enough

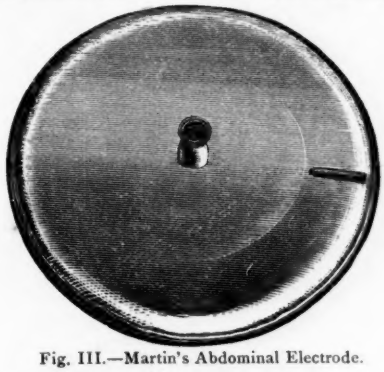


Fig. III.—Martin's Abdominal Electrode.

to render it water-tight. Between the concavity of the disk and the membrane is left a space one and one-half inches in thickness, which is filled with a warm saturated solution of chloride of sodium. The electrode is filled through a stopper on the surface of the metal. The connections are also made from this surface.

This electrode, when filled, is applied to the surface of the body so that its membrane surface is in contact with the skin. It adapts itself accurately to all irregularities, covers a large surface, and causes a diffusion of the current so perfectly, and makes connections so complete, that I have been able repeatedly to use a current of 75 to 1,000 milliampères without producing the slightest blistering of the integument and without producing even a disagreeable sensation.

VI. *Details of Application.*—There are three distinct operations that are called for in the rational treatment of fibroid tumors of the uterus by electrolysis. They vary both according to symptoms and conditions. The first that I will consider is for the relief of excessive hæmorrhage. I consider this of first importance because it is one of the most distressing symptoms we meet with in dealing with these difficulties, and a symptom which often baffles every other resource.

I will not go into a description of the different conditions that *may* be present in hæmorrhagic fibroids, but will confine myself to the few conditions that must be present to allow of benefit from this treatment. We have excessive hæmorrhage which may be continuous or periodic. The hæmorrhage is from the cavity of the uterus. The uterine canal must be accessible to a flexible probe. There must be no acute metritis, peri- or parametritis present. With these requisites, positive and negative, we may proceed to operate. An assistant, if the patient is reasonably strong, is not necessary. The application is preferably given in the office.

The patient's clothing is loosened, and she is in-

structed to assume the dorsal position upon an operating chair or table. A speculum is introduced or not according to convenience of operator, and the direction, size and depth of the uterine canal is ascertained by means of a soft metal probe. A uterine sound electrode composed of pure platinum, corresponding as nearly as possible with the size of the uterine canal, is selected, and made to conform to the general direction of the canal as indicated by the probe. This electrode is then introduced to the bottom of the uterus, and the insulating shield is pushed up until it touches the cervix and covers perfectly the intra-vaginal portion of the metal. When the electrode has been satisfactorily applied and connected with the positive pole of the battery, Martin's large abdominal electrode, properly prepared and attached to the negative pole of the battery, is applied to the lower portion of the patient's abdomen in such a manner as to bring its whole surface in contact with the skin.

After the electrodes have heen securely placed and the connections are found to be perfect, the operator should commence turning on the current. This should be done very gradually at first in order that the patient may experience no shock. If the patient complains of a dull pain internally while the current is being increased, the operator should stop for a few seconds, and he will often find that the pain will cease, after which the current can again be increased to the desired strength without excessive pain. At the first not more than a 50-milliampère current should be used. If the patient bear this well, it should be increased at each succeeding operation until a strength of from 100 to 500 milliampères is obtained. The first operation should last about five minutes, and if well borne the succeeding ones can safely be lengthened to ten or twelve minutes. In finishing the operation the current should be decreased in strength a cell at a time very slowly, until it is entirely excluded. After the operation the patients should remain quiet for half an hour, when they can return to their homes, with instructions to keep very quiet for at least twenty-four hours.

This operation has two effects. It checks hæmorrhages, and reduces the size of the tumor. The local coagulating effect of the platinum electrode upon the inner surface of the uterine canal checks the hæmorrhage, and the electrolytic effect of the powerful current through the tumor favors its absorption. A number of repetitions of the operation are necessary to control severe hæmorrhages. It is impossible, at one sitting, for the internal electrode to come in contact with all the surface of the canal, no matter how much pains may be taken to make an accurate adjustment. Nothing but repeated operations can accomplish this. Unless the current is too strong there will be but very little subsequent sloughing at the place of contact of the positive pole. If troublesome sloughing *should* occur after an application, a somewhat weaker current should be used afterwards. It must be remembered that coagulation, and not cauterization of the tissues, is the point sought.

The second operation to which I will call your attention is for the reduction of tumors that have grown in such a manner that they have distended or occluded the uterine canal so that it will not admit a sound electrode, and thereby renders intra-uterine *treatment proper* impossible. In these cases an *artificial* canal should be established in the obstructing portion of the tumor by means of negative-galvano-puncture entering the tumor from the cervical canal. For this operation the patient is also placed in the dorsal position. The position of the cervix is ascertained, and by aid of a proper speculum a sharpened probe of platinum and iridium is thrust a safe distance into the centre of the presenting fibroid. The vaginal portion of the electrode is properly insulated as in the other operation, and is then connected with the *negative* pole of the battery. The abdominal electrode is attached to the positive pole and applied as for the previous operation, and with proper precautions the current is gradually turned on until the desired strength is obtained, this being as high as 150 milliampères, often without pain or harm to the patient. Contrary to ordinary expectations, the *pain* produced by this operation is not sufficiently severe to require an anæsthetic, and with the exception of the first séance, when the new canal is established, the succeeding treatment is no more disagreeable than the ordinary use of the internal electrode in the uterine canal. Before any internal needle or puncture operation a vaginal injection of 1 to 5000 bichloride of mercury should be given, and repeated each day as long as the treatment is continued. An interval of about five days should elapse between the first and second applications, and the duration of the séance should be from five to ten minutes.

The first effect derived from the employment of this method is the establishment of a new channel to take the place of the distorted and obstructed uterine canal and by which subsequently the tumor will be treated. The second effect is the direct electrolytic action of the current upon the growth. The channel left after the withdrawal of the probe is somewhat larger in diameter than the electrode itself, and will remain for a number of days penetrable to the probe. There is but slight suppuration from its surface, but should there be any considerable hæmorrhage from the artificial canal, one application of the electrode with the current reversed making the positive pole the internal will give relief. One imperative point in these operations is the proper selection of poles to be employed. The immediate effect of the negative pole is to liquefy the tissues with which it comes in contact like a caustic alkali, and it should be selected for the establishment of a canal, while the effect of the positive pole is to coagulate and harden tissues coming in contact with it, like a caustic acid, and it should always be employed to check hæmorrhage either from the artificial canal or the natural uterine canal itself. Therefore for the rapid reduction of the tumor the negative pole is decidedly preferable, and should always be applied unless the presence of hæmorrhage demands the use of the positive.

The third and last operation to which I will call your attention is the extra-uterine galvano-puncture, or the needle operation proper. Tumors that call for this form of treatment are those that are not

amenable to the other two forms already considered.

This variety, usually of the sub-peritoneal type, often pedunculated, can be reached either by puncture through the vaginal wall, using great care not to injure the bladder or other important organs, or where this is not feasible by puncturing through the abdominal wall. Everything else being equal, the needle should be introduced into the tumor through the vagina, because if it is at all possible, the tumor lies in contact with the vagina; consequently the tissues that it is necessary for the needle to traverse are unimportant, while the abdominal wall with its fat, muscle, and peritoneal layers is too formidable to penetrate even with a needle unless actuated by absolute necessity. If the puncture is to be made through the vagina, a thorough vaginal injection of the bichloride solution should be employed, and for this operation, unless the patient has more than ordinary fortitude, an anæsthetic should be administered. For this purpose I employ, as preferable, the mixture of equal parts of alcohol, ether and chloroform, on account of its prompt action and transient effects.

After it has been definitely determined that this operation is the only alternative the patient is placed in the dorsal position, and all instruments being in readiness, the anæsthetic is pushed promptly to a surgical degree and then entirely withdrawn. A suitable speculum is introduced and a needle with proper curve, and insulated with hard rubber to within one inch of the point is thrust through the vaginal walls into the tumor. The position of the bladder should have been ascertained by means of a probe or catheter, before commencing work. When the needle has been satisfactorily adjusted the speculum is carefully withdrawn and the needle connected with the negative pole of the battery. The same external electrode, should be adjusted with the same care, and in the same manner as in the other operations described and connected with the positive pole. The current is now gradually turned on until a strength as indicated by the galvanometer is reached of 500 to 1,000 milliampères. In the meantime the patient is allowed to come out from the influence of the anæsthetic, which usually occurs without any struggling; a peculiarity of the anæsthesia by the A. C. E. mixture which makes it very desirable for this work.

This operation should last for about eight minutes the first time, and subsequently, if it is deemed desirable, a longer time can be given. When the operation is terminated, and the current has been gradually withdrawn, the needle will be found loosened and its removal is accomplished with ease and very little pain.

The abdominal operation is performed where the tumor is of the large sub-peritoneal variety, that cannot be safely attacked from the uterus or vagina, and where the tumor rises above the cavity of the pelvis, and is in contact with the abdominal wall. Here, after necessary antiseptic precautions have been carried out, the needle is thrust through the abdominal wall into the substance of the tumor at its most prominent part, and is then connected with the negative pole of the battery. The other electrode, the same variety as described in the other operations, should be placed upon the abdomen in close proximity to the needle. The current should be 300 to 1,000 milliampères strength, and the duration of the operation ten minutes.

Herein I have endeavored to give you an idea of the present status of the treatment of fibroid tumors of the uterus by means of the strong current of electricity. The use of the strong current was adopted by Dr. Apostoli, of Paris, he being the first to devise electrodes and rational means by which it could be made tolerant. To the extent of discussing the strong current and utilizing the coagulating effect of the positive pole for the checking of uterine hæmorrhages, I have described Dr. Apostoli's methods. Otherwise I have not confined myself to any one system, but have endeavored to give the best means, according to my knowledge and judgment, that have been developed, up to the present time, for the relief of this distressing malady. The scope of the subject is too broad to admit its being satisfactorily dealt with in one short paper, and, I therefore beg to submit, at the risk of wearying your patience, the following conclusions, which may cover a few points of importance that time would not allow me to discuss in the body of the paper.

CONCLUSION.

1. A means of generating a continuous current of electricity which can be increased per 10 to 1,000 milliampères in strength, is necessary in order to obtain all the benefits of this treatment.

2. Hæmorrhages from hæmorrhagic fibroid tumors can be cured by the local coagulating effect of the positive pole applied inter-uterine.

3. The inter-uterine electrode, when positive, should be of unattackable metal, conforming as nearly as possible to the size and shape of the uterine canal and having the vaginal portion insulated.

4. When the cervical canal cannot be entered a negative galvano-puncture should be made into the presenting part of the obstructing mass of the tumor and an artificial canal, which is to take the place of impenetrable uterine canal, in all subsequent treatments be formed.

5. The intra-uterine electrode should in all cases be negative, unless there is hæmorrhage or excessive leucorrhœa, when the positive pole is always required. The same patient may, however, present successive symptoms demanding the use of each pole.

6. The strength of the current should be the strongest possible consistent with the desired therapeutic effect and the endurance of the patient.

7. Cases of intolerance of high doses arrange themselves under the three following heads: 1. Hysteria. 2. Enteritis. 3. Acute nephritis, peri- or parametritis; the most tolerant being the deep uterine and profusely hæmorrhagic.

8. The duration of the operation should be from eight to ten minutes, according to the toleration of the patent.

9. The number of operations is necessarily dependant upon and influenced by the result to be accomplished. A severe hæmorrhage can be checked in from four to five séance, while a general reduction of

the tumor necessitates many operations, varied, of course, according to size and location. In many cases simply a restoration to health and a relief from the prominent and annoying symptoms must be accepted as a substitute for an actual cure.

10. The time of commencing the treatment matters but little, if the tumor is not rapidly growing, and no excessive hæmorrhage is present. The operation should be inter-menstrual, if possible, but if hæmorrhage is continuous operate during the flow. The séances should occur two or three times a week if compatible with the endurance of the patient, and should be as regular as possible.

11. Extra-uterine puncture should be regarded only as a last resort, but every means of reaching the tumor through the uterus being impracticable, seek, if possible to make the operation extra-peritoneal, should this in turn prove equally unadvisable, use as a final alternative the abdominal puncture.

12. Strictest cleanliness and thorough antiseptic precautions are absolutely demanded in operations connected with this treatment.

163 State Street, Chicago, February, 1887.

VAGINAL PRESSURE IN THE TREATMENT OF CHRONIC PELVIC DISEASE.

Abstract of a paper read before the Chicago Gynæcological Society, February 18, 1887.

BY A. REEVES JACKSON, M.D.,
OF CHICAGO.

The brief paper which I have to present this evening, was suggested by some remarks, with which the society was favored at its last meeting by Dr. Etheridge, entitled a "Preliminary Note on Antiseptic Tamponnement of the Vagina in the Treatment of Pelvic Inflammation." It would have afforded me pleasure to endorse the treatment which was advocated at that time, had an opportunity been given for so doing, for I have had occasion to make frequent use of it, and to learn its advantages, during the past eight or nine years.

My attention was first called to this subject by reading a paper which was published by Dr. V. H. Taliaferro, of Atlanta, Ga., in 1878, on "The Application of Pressure in Diseases of the Uterus," in which the writer presented many facts and arguments to prove the great therapeutic efficacy of the principle of pressure as applied to the treatment of diseases of the uterus and other pelvic organs, which are characterized by habitual passive congestion and its results, namely, uterine displacements, enlargement, relaxation, cervical erosions, menstrual disorders, etc. The method consisted in firmly packing the vagina with sheep's wool made antiseptic with carbolic acid, with the aid of a Sims' speculum, the patient being in the knee-chest posture. At first Dr. Taliaferro used cotton pledgets, saturated with glycerine, but observing that the cotton packed quite hard, he very soon substituted wool because of its resiliency, a quality with which it was found to retain under pressure and moisture.

[In illustration of the results of this method of treatment, Dr. Jackson detailed a number of instructive cases in which it had been used by him. In one of these, the patient was suffering from supra vaginal elongation of the uterine cervix, complicated with complete cystocele and vaginal eversion, the involuted parts protruding from the vulva and forming a tumor of considerable size. The uterine canal measured six inches. The parts were restored and the vagina packed with cotton, a process which was repeated every two or three days for a fortnight, at the end of which time the depth of the uterus was reduced to three inches. Other symptoms were correspondingly improved. The patient, who had been only able to drag herself along with pain and difficulty, could, after the first packing, move with rapidity and comfort. She was subsequently cured by a plastic operation on the vagina. A number of other cases, some of them furnishing results almost equally striking, were detailed by the writer.]

Dr. Taliaferro strongly emphasized the importance of applying the tampon with the patient in the Sims' position, in order that the vaginal canal should be distended and elongated to its utmost capacity. He further advised that the first few pieces composing the tampon should be of cotton, for the reason that a greater amount of glycerine may be incorporated with that substance than with wool. It was claimed that the therapeutic effects of this treatment are as follows:

1. It diminishes blood supply and nutrition.
2. It promotes absorption.
3. It removes hyperplastic tissue by retrograde metamorphosis.
4. It diminishes nervous action.
5. It rectifies malpositions.

I was much impressed by the stated results of the treatment, and determined to give it a trial. It seemed to promise a valuable substitute in some of the objectionable and uncertain methods of local treatment then and now in vogue, such as cauterization, local blood letting, tents, intra-uterine medication, iodine painting, hot douches, etc. Since then I have used it in many cases of chronic pelvic disease, and am able to corroborate the favorable statements that have been made concerning its efficacy.

Dr. P. F. Mundè, who gives an abstract of Dr. Taliaferro's paper in his "Minor Surgical Gynæcology," edition of 1885, says: "Of the value of this steady and elastic pressure and support in reducing the size of an engorged hyperplastic or (better still) subinvoluted uterus, and restoring the normal circulation to the œdematous and congested pelvic cellular tissue, I have no doubt whatever; neither of the potent alterative effect of this pressure on old peritonitic or cellulitic exudations and adhesions."

I had not applied this dressing many times before I observed occasionally on removing the tampon, that on various parts of the vaginal wall, and also around the os uteri, erosions appeared sometimes bleeding slightly on exposure. I attributed this to the fact that the packing had either been too firmly or unequally placed. In cases of moderate laceration of the cervix uteri, this accident is especially likely to occur if the packing is so applied about the vag-

inal portion in such a manner as to widely open the os uteri. Hence, in all such cases I endeavor to at first push the uterus upward with a single pledget, and then to pack the entire vaginal fornix about it so as to press the cervical labia together as much as possible.

When any part of the mucous membrane appears soft and succulent, I have found advantage in combining with the glycerine a solution of tannin or alum. The contact of glycerine is not equally well-borne by all vaginas, and in a few cases I have not been able to persist in its use on account of the irritation it caused. In these cases I find an excellent substitute in vaseline, which, although it does not produce the peculiar serous drain which comes with the use of glycerine, is unirritating, and makes possible the employment of the pressure, which is the more important element in the treatment.

When I first began to use this pressure treatment I chose carded wool, in accordance with the suggestion of Dr. Taliaferro. But it was difficult to obtain a well prepared article, and next to impossible to incorporate any considerable quantity of glycerine with it. I was obliged to use cotton for the upper part of the vagina. I next tried successively oakum and jute. These substances were elastic—especially the former—and also antiseptic; the former containing tar, and the latter carbolic acid. However, since sheep's wool has been so prepared as to be free from fatty matter, and is comparatively absorbent of water and glycerine, it more completely and perfectly meets the indications than any of the other substances I have named.

As regards the form of the tampon, I have used it both in single and multiple pieces, and unhesitatingly give preference to the latter in many cases. It is very important that the vagina be packed in such a way as to insure an equable pressure against every part. This cannot be so certainly done with a tampon made from a single piece, or a few large ones as with a number of smaller sizes. When moistened the pieces should not exceed a walnut in size. Time may be saved, however, and the object accomplished, by using a single piece of wool for the lower half of the vagina.

Commonly, the only medication I have used with the tampon besides the glycerine or vaseline, has been the occasional addition of tannin or alum. But when, for any reason, I have wished to have the dressing remain longer than two days, I have, after saturating the separate pledgets, rolled them in boracic acid so as to take up two or three drams of the latter.

The cases in which I have found this method of treatment especially beneficial are those which are characterized by soft engorgement—such as the earliest stages of subinvolution, with or without cervical laceration. In these cases I have seen more marked change effected in two weeks than is commonly seen in two months—or more than is seen at all sometimes—under the use of hot water douches, however perfectly and assiduously the latter may be used.

Permit a slight digression. Without wishing to disparage in the least the use of hot water irrigations, in the treatment of chronic pelvic inflammations, I desire to say that for some years I have held the opinion that their efficacy great as it is, has been overrated. Indeed, they have been so eulogized that perhaps we have expected more from them than was reasonable. One serious drawback to their usefulness arises from the fact, that the sittings cannot be continued usually for a sufficiently long time. If it were practicable to keep a stream of hot water playing against an inflamed or engorged tissue for thirty hours rather than thirty minutes, we should doubtless obtain more prompt and more permanent results. But as the hot water douche is usually employed, it effects in constricting the over-full vessels are of short duration. I have seen a turgid, purplish cervix subjected to a hot stream for forty minutes; at the end of the time it was pale and shrunken; at the end of another hour, the patient continuing meanwhile on her back, I have found the same cervix as turgid and as purple as before.

Now, just on this account, a manifest and very great advantage may be urged in favor of a means of treatment which, equally with the hot water douche, has power to unload the vessels of their stagnant contents, and which may be continued day after day and week after week, without remission and without reaction. Such a means is, I believe, to be found in this persistent pelvic pressure and tissue drainage.

Were it needful I could cite many cases illustrative of the beneficial effects of this treatment, but will content myself with but two.

Case 1.—A married woman, 34 years of age, had two children at term, and subsequently a miscarriage at the fifth month. After this latter event menstruation became more profuse and the periods were protracted. At the end of two years her general health was greatly impaired and she was markedly anemic. Ordinary remedies were used without success. At my suggestion, her physician curetted the interior of the uterus, and then swabbed the cavity with Churchill's solution of iodine. Febrile symptoms followed, and lasted a week. Temporarily there was improvement as regarded the hæmorrhage; but in three months she was worse than before, and rarely free from a bloody discharge. It was then determined that I should repeat the curretting. Remembering the inflammatory sequel to the previous operation, I was moved to pack the vagina a few times as a prepatory measure. She was flowing when the first packing was placed. When the latter was removed at the end of forty-eight hours, the only appearance of blood was a slight staining of that portion of the tampon which had been pressed against the os uteri. Another tampon, larger than the first, was placed, carrying the uterus as high as possible in the pelvis. On its removal two days later no blood at all was perceptible. This treatment was continued three weeks, combined with suitable medicinal and hygienic means, with the result of permanently stopping the hæmorrhage, and the ultimate restoration of the patient's health.

Dr. Mundé, in speaking of this means of treat-

ment in connection with another class of cases, uses these words: "When the retro-displaced fundus uteri is adherent, these daily emollient and hydrogogue tampons may in time, by their combined pressure and alterative action, bring about the absorption, or at least stretching, of the adhesion, and permit a replacement of the organ." I submit a case in point.

Case 2.—Mrs J., aged 24 years; had several induced abortions; no child at term. Had been treated for displacement by pessary, with apparent benefit. Afer a time the symptoms returned, and the physician introduced a larger instrument. It caused pain at once, and in a few hours there was a chill and then rise of temperature. I saw the patient next day and advised the removal of the instrument, which was taken away. It was a very large one. A sharp attack of inflammation ran its course in ten days. No abscess formed. A few weeks later I found the uterus retroverted and the fundus immovably fixed by adhesions in its mal position. At the request of the attending physician I then took charge of the patient. The treatment consisted wholly in the use of tampons of cotton with glycerine and boracic acid. The pledgets were small at first, and were placed in the posterior vaginal fornix, pressed into position with as much force as the patient could readily bear. The pledgets were increased in size and others were placed in front of the cervix. The vagina was packed below more and more fully and firmly each time with wool, until the canal was distended to its utmost capacity. At first the dressing was renewed daily, then every two days. At the end of two months the uterus was thoroughly replaceable, all tenderness had disappeared, and no evidence remained of the former presence of adhesions.

A CASE OF INNOMINATE ANEURISM TREATED BY SIMULTANEOUS DISTAL LIGATION OF THE RIGHT CAROTID AND SUBCLAVIAN ARTERIES. RECOVERY.

Read before the College of Physicians, of Philadelphia.

BY H. R. WHARTON, M.D.,

ASSISTANT SURGEON, HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

The following case was operated upon by Professor John Ashhurst, Jr.:

Andrew C., aged 42 years, who was born in Scotland and served for a time in the British army, and whose present occupation is that of a gardener, presented himself at Professor Pepper's clinic at the University Hospital with the following history: Eighteen months before his admission to the hospital he began to experience pain running from the throat to the right shoulder and arm, and this continued to be noticed at intervals until six months ago, when he began to be troubled with shortness of breath and complained of a paroxysmal cough and difficulty in swallowing; at this time he noticed a swelling above and a little to the right of the sternum.

From this time he suffered much from the symptoms above described, and had also great difficulty in sleeping in the recumbent position and spent a large portion of his nights in the sitting posture. The patient had never had syphilis, and the only thing to which he could attribute his present condition was a severe fall upon the right shoulder which had occurred two years previously.

The result of the examination by Prof. Pepper was as follows: The patient presented a swelling above the sternum extending from the middle line two inches to the right along the line of the clavicle. Inspection showed decided pulsation in the swelling and palpation revealed its expansile character. Auscultation detected no bruit or thrill in the tumor, but the heart sounds were heard over the area of swelling with great clearness; no murmur was detected over the right carotid or subclavian arteries; examination of the heart showed that its sounds were clear. There was noticed great venous suffusion of the face with distension of the venous trunks when the patient leaned forward. The left pupil was large, the right of moderate size; the right pupil promptly responded to light, the left one acted sluggishly. The radial and other accessible arteries were soft to the feel, so that there was no evidence of widespread arterial disease. A sphygmographic tracing taken by Dr. Westcott, showing the differences in the radial pulses, is subjoined. As the result of his examination, Prof. Pepper was of the opinion that the patient was suffering from an aneurism of the innominate artery.

The case was referred to Prof. Ashhurst and was admitted to the surgical ward. Prof. Ashhurst, after a careful examination of the patient, concurred as to the diagnosis of innominate aneurism and decided that the treatment by simultaneous distal ligature of the right common carotid and right subclavian arteries was that which offered the most hope of a cure of the aneurism or at least of benefiting the patient's condition.

On November 13, one week after his admission to the hospital, the patient was etherized and Prof. Ashhurst cut down upon and ligated the right common carotid artery just above the omohyoid muscle with a catgut ligature; the right subclavian artery was next exposed and ligated in its third part just outside the anterior scalene muscle with a ligature of the same material. The wounds were closed with silver sutures, drainage tubes being introduced, and were dressed with oiled lint, the whole right arm being wrapped in cotton.

No immediate effect was noticed in the aneurism from the application of the ligature, nor were there any cerebral symptoms. The patient did well after the operation, and on the succeeding day the temperature and color of the right arm were good. The wounds did well and in the course of a few days it was noticed that the tumor at the root of the neck had become smaller and firmer and that its pulsations had diminished in force; the dyspnœa and dysphagia had also diminished very markedly, and the patient was able to sleep comfortably in the recumbent posture. Up to the time of his discharge from the hospital repeated examinations failed to discover any pulsation in the radial artery. After this time the patient's improvement was continuous and he

was discharged from the hospital on January 13, just two months after the operation, at which time he was examined by Prof. Osler, who made the following report:

Inspection shows no pulsation visible; right sterno-clavicular articulation prominent. Palpation reveals systolic shock at right sterno-clavicular articulation and upon firm pressure a feeble pulsation can be felt; this is also noticeable when the finger is placed in the sternal notch. Percussion gives a clear sound beneath the first bone of the sternum until you approach close to the clavicle. There is a small area of dulness beneath area of prominence. Examination of the heart shows the apex beat visible just below the nipple; feeble cardiac pulsation felt on deep pressure. No increase of heart dulness; heart sounds clear at apex; at second right interspace, first sound feeble, second sound loud and ringing. Accentuated sound over first bone of sternum. Over the swelling at the right clavicular articulation, first sound is dull, free from murmur, and the second sound is loud. The accentuation of the second sound is heard as far as the middle of the right clavicle; most careful examination fails to discover any indication of murmur.

The treatment of innominate aneurism by the consecutive or simultaneous application of distal ligature to the right common carotid and subclavian arteries has been employed in a sufficient number of cases, and the results following the operation have been of such a nature that it is now established as a well-recognized surgical procedure in the treatment of this affection.

The *rationale* of the treatment of innominate aneurism by the distal ligation of the right common carotid and subclavian arteries are as follows: By the occlusion of the right common carotid and subclavian arteries, if both be tied simultaneously, the amount of blood passing through the aneurismal sac is diminished about two-thirds, and there is a proportionate slowing of the circulation of the blood through the sac; the circulation continuing through the aneurism is, probably, about one-third of the usual amount, representing the blood sent to the large branches given off from the first part of the subclavian. By means of this diminished and retarded circulation we have, in favorable cases, consolidation, to a greater or less extent, of the aneurism, either from the formation of a laminated clot on the inner wall of the sac, or from the extension backward of a thrombus which starts at the site of the distal ligatures upon the carotid or subclavian arteries.

If the ligatures be applied consecutively to the carotid or subclavian arteries, the circulation of the blood current through the aneurismal sac is diminished to a less degree upon the application of the first ligature. In cases which terminate favorably after this operation the aneurismal tumor diminishes in size and becomes firmer, the pulsation becomes less distinct, and the pain and pressure symptoms, if they had previously existed, disappear; that pulsation at the site of the aneurism is seldom entirely wanting is accounted for by the fact that a certain amount of blood still finds its way through the sac to supply the vessels given off from the first part of the subclavian.

The question as to whether it is better to practise simultaneous or consecutive ligation of the carotid and subclavian arteries in this form of aneurism, is one upon which the highest surgical authorities hold some diversity of opinion. Mr. Barwell, whose successful cases and writings upon this subject have given a great impetus to the treatment of innominate aneurism by distal ligature, is of the opinion that the most rational form of treatment consists in the application of simultaneous distal ligatures to the carotid and subclavian arteries in properly selected cases. He opposes the application of consecutive ligatures unless in exceptional cases; and in this opinion he is sustained by Mr. Erichsen, on the ground that by tying one vessel only, time is allowed for the gradual dilatation of the collateral vessels given off from the first part of the subclavian artery, thus rendering the application of the second ligature less effective in diminishing the amount of blood passing through the aneurismal sac. He concludes that the result of tying the right carotid artery alone for innominate aneurism is not satisfactory, as this vessel has been ligated for innominate or aorto-innominate aneurism thirty times, with twenty deaths; and in case of aortic or aorto-innominate disease it has been tied seven times, and in only one instance has it proved beneficial; he concludes, therefore, that in low innominate aneurism, which almost always involves, to a certain extent, the aorta, it is safer to tie simultaneously the carotid and subclavian arteries than to tie the carotid alone.

Mr. Holmes, upon the other hand, looks with more favor upon the consecutive application of the ligatures; he considers the carotid ligature most important, and recommends its application first, and reserves the ligation of the subclavian for a subsequent period. He is in favor of ligating first the vessel in the direction in which the aneurism exhibits the greatest tendency to spread. He also believes that the distal ligature is efficacious in the treatment of innominate aneurism which is of the mixed variety, which is associated with marked aortic disease; in this opinion controverting the previous teaching that innominate aneurisms associated with aortic disease are unfavorable cases for distal ligation. In this latter opinion he is supported by the favorable results following the ligation of the left carotid artery for aortic aneurism, as suggested by Mr. Cockle.

So far as I am able to ascertain, consecutive double distal ligation of the right carotid and subclavian arteries has been practised for innominate aneurism (as diagnosed) in eight cases, with three recoveries and five deaths, although there was temporary relief in one of the fatal cases.

I have been able to find the records of thirty-two cases of simultaneous double distal ligation of the right carotid and subclavian arteries for innominate aneurism (as diagnosed), in which the operation was followed by recovery in twelve cases, death in sixteen cases, and by temporary improvement in four cases. It will be seen that the results of both methods of treatment as regards the number of recoveries are nearly equal, but it must be remembered that the number of cases in which consecutive liga

tion was resorted to is very small in comparison with that in which simultaneous ligation was employed. I think, therefore, that at the present time the weight of surgical opinion is in favor of the views of Mr. Barwell that, in innominate aneurism, the simultaneous double distal ligation of the right carotid and subclavian arteries is both a more efficient and safer procedure than the consecutive ligation of these vessels.

MOUTH BREATHING AND ITS TREATMENT.

BY N. R. GORDON, M.D.,
OF SPRINGFIELD, ILLS.

The evil results of mouth breathing, are due to the inspiration of atmosphere at a low temperature, the presence of dust and foreign matter in the air, the desiccating effect on the mucous membrane over which the air passes, and the disuse of the nasal passages for the normal function of respiration.

The pathological results are: chronic inflammation of the pharynx, larynx, and bronchi, and the adjacent tissues, accompanied with cough, hoarseness, loss of resonance of voice, impairment of sense of smell, and hearing. The pernicious effect of oral respiration is not impressed upon the minds of medical men, nor is it scarcely recognized as being an evil practice by the public. The practice is a very common one, especially during the winter season; there are a great many habitual mouth breathers.

A condition which gives rise to partial or complete nasal stenosis, is adequate cause for mouth breathing. Chronic hypertrophic catarrh is the most frequent cause of partial stenosis; the frequent congestion of the cavernous tissue from repeated colds, causes hypertrophy of the turbinate bodies, which partly close the nasal lumen, requiring the subject to resort to oral respiration; the necessity for mouth breathing is in proportion to the nasal stenosis; the transition from nose breathing to mouth breathing is gradual, and the parts by degrees become accustomed to the transfer of function. Many persons have a partial obstruction of the nasal passages; they breathe with comparative ease while in a state of repose, but upon taking exercise, such as walking, they resort to mouth breathing to supplement the deficiency in the nose; others resort to it only during sleep; many contract mouth breathing from a careless habit, or possibly from a succession of colds in which the subject is forced to breathe through the mouth; in such cases the obstruction in the nose is the result of thickened mucosa.

A deflection of the septum to one side or the other, will produce a partial obstruction of the nares; the septum may be contorted like the letter S, giving a stenotic effect in each nostril; often coupled with deflection there is hypertrophy of the opposite tissues, making the stenosis complete. Any of the tumors that occur in the nasal cavity, such as the gelatinous, or mucous polypi, malignant growths, the adenoid growths of the post nasal passage, or exostosis of vomer may produce partial or complete stenosis of the nares; foreign bodies, such as seeds, buttons, stones, may lodge in the meati, and occlude the passage; paralysis of the dilator alae nasi prevent free nasal respirations; enlarged tonsils, tumors of the palate or uvula may interfere with nose breathing. Adhesions of the soft palate to the posterior wall of pharynx, and bands uniting the two lateral walls of the nostrils, the result of cicatricial contraction from strumous or syphilitic ulceration, will prevent nasal breathing.

The function of the nose is of a three-fold character: 1. Respiration. 2. Special sense of smell. 3. Vocal resonance. The temperature of the air, in its passage through the nose, is increased, and foreign substances, such as dust, is lodged on the irregular mucus surface of the nasal passages. If the inspired air is dry, it also gathers moisture. The terminal filament of the olfactory nerve are very properly distributed to the superior portion of the nasal passages, where it readily comes in contact with the odor-bearing atmosphere. In order that the vocal resonance should be perfect, the nasal and post-nasal passages should be free and open; any increase in tissue or obstruction in these passages impair the resonance of the voice.

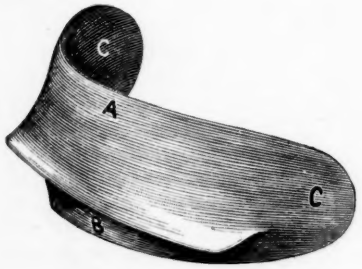
In oral respiration the air enters the larynx at a temperature somewhat lower than is given it by a passage through the nasal chambers; this cold air excites inflammatory action, producing soreness, cough, hoarseness and other symptoms of pharyngeal, laryngeal, and bronchial irritation. The dust and foreign matter floating in the air finds but little to impede its progress until coming in contact with the vocal bands, and the adjacent sensitive tissues, thus adding another factor, in the production of inflammation. Owing to the dryness of the atmosphere in our dwellings, the mucus membrane of the mouth and throat, in its efforts to furnish the required additional moisture, becomes very dry and parched. Infiltration with thickening of the mucus, submucus, and glandular tissue, of the entire nasal and post-nasal passages occur, as the result of deprivation of the normal stimulus, afforded by respiration; such thickening interferes with the resonance of the voice, hearing, and sense of smell. The results arising from the loss of nasal breathing, are as important as the direct evils from mouth breathing.

Treatment.—The method of treatment adapted for the cure of mouth breathing will depend upon the cause. If the obstruction is due to deflection of septum, I have found the rotating burr and dental engine, the most practical and satisfactory method of relieving the difficulty. Exostosis can be removed in the same way. Abnormal growths of whatsoever character, must be removed by such means as seem best adapted to the various conditions existing in each particular case. The adhesions of the soft palate with the posterior wall of pharynx, should be dealt with in the most approved method for relieving such conditions; adhesions of the nasal walls should be severed, and pledgets of cotton kept in situ until the part heal. If the nasal stenosis is due to indurated hypertrophy of the turbinate processes, these will require removal by the galvanic-cautery or Jarvis' wire snare.

So far as the successful treatment of the habit of mouth breathing is concerned, I am unable to find anything in the literature upon the subject, better than the use of bandages, or similar appliances, around the head for holding the mouth closed, which are unsatisfactory and produce great discomfort to the patient. The frequency of mouth breathing and the evil consequences, are sufficient to enlist our attention in the prevention and cure of this practice. As we have said, the greater number of cases of mouth breathing are due to nasal catarrh; a succession of colds have produced a soft and œdematous condition of the nasal mucosa, and mouth breathing ensues as a necessity; upon recovery or partial subsidence of the cold, the subject continues to breathe through the mouth, and the conditions which characterize chronic hypertrophic catarrh are developed.

In all such cases, and indeed, in all others where the obstruction is not indurated, fixed, or complete, and in cases after an operation for the relief of stenosis, where it is desirable for the patient to overcome the habit of mouth breathing while asleep, I have found an instrument, the device of Mr. William Fisher, of this place, to be admirably adapted for their relief. It is made of celluloid, simple in construction, and fits nicely between the teeth and lips without the aid of bandages or other appliances, and is worn during sleep without any apparent discomfort. I wish to call especial attention to the value of this instrument in the treatment of mouth breathing, due to the above causes; it is also a useful adjunct in the treatment of nasal disease where mouth breathing is present. It acts by actual prevention of oral breathing, and the normal stimulus of respiration restores the intra-nasal tissues to a healthy condition. It also overcomes the habit of snoring, which is due to ora-nasal respiration.

The accompanying cut gives a very good idea of the instrument.



THE RESTORATIVE TREATMENT OF SLEEPLESSNESS FROM BRAIN EXHAUSTION.

BY BOARDMAN REED, M.D.,

OF ATLANTIC CITY, N. J.,

FORMERLY PHYSICIAN TO THE MERCER MEMORIAL HOUSE FOR INVALID WOMEN.

One of the lessons strongly impressed upon me by my experience in practice is that insomnia when due (as is most frequently the case) to brain exhaustion, is best cured by tonic or restorative treatment, rather than by narcotics. It has been a source of gratification, therefore, to see the same lesson strongly inculcated by Dr. W. G. Eggleston in THE JOURNAL for February 19. I desire to confirm emphatically all that he said in his paper.

It has been alleged by somebody that man is the only animal that can be taught to sleep on an empty stomach. But when suffering from brain-fag this teaching may fail even in man. Unquestionably a lunch at bedtime is wholesome and conducive to sleep, especially in brain-workers who sup early and retire late. But the lunch should be simple. Indigestible food taken at bedtime may easily disturb the sleep.

The cold plunge or sponge-bath is another excellent hypnotic and a rational one, since it at the same time diverts blood from the brain to the capillaries of the surface and invigorates the nervous system.

At this health resort, where many of the broken down people of the United States sooner or later come as to a sort of Mecca for the afflicted. I see large numbers of persons whose chief complaint is that they cannot sleep. Most of them have taken bromides persistently and often without advantage except at first. When such patients come with definite instructions from their physicians to persevere with a course of some bromide mixture, I have always encouraged them to give the remedy a thorough trial, but when the cause of the insomnia has been, as it is nine cases out of ten, some form of cerebrasthenia, the result has generally been disappointing, even in this air which is exceptionally bracing and predisposes most persons to sleep.

The cases of nervous break-down which are serious enough to have caused a compulsory vacation from business and a sojourn here at the seashore, frequently require medical treatment to reëstablish the habit of sleeping, and thus enable the exhausted nerve centres to be rested and reinvigorated; and no sedative or narcotic drug yet tried by me, whether opium, chloral, the bromides, hyoscyamous, hyoscine or paraldehyde has proved satisfactory in such cases. The tonic effect of the sea air with good food, moderate exercise and cheerful company often prove sufficient. When it does not, a light lunch at bedtime with occasionally a few teaspoonsful of whisky in milk added and the sponging of the body with sea-water followed by a thorough rubbing with a Turkish towel are highly useful measures. But sometimes these all fail, and when they do, my experience teaches that to begin administering any narcotic medicine is usually a mistake. My most frequent recourse now is to give some one of the nutrient nerve tonics, such as the compound syrup or glycerite of the hypophosphites—a teaspoonful two or three times a day—or in some cases the compound syrup of the phosphates, commonly known, in Philadelphia at least, as Parish's Chemical Food. When the patient has a weak heart and insomnia results from a passive congestion of the brain, a condition frequently met with among neurasthenics, a little digitalis may work wonders and may usually be advantageously combined with very small doses of strychnia and quinine as well as with moderate doses of iron when this is otherwise indicated.

Of course it goes without saying that bad sleepers should have their stomachs and liver put in as good order as possible, and when kidney or other organic diseases has a causative influence it demands the chief attention.

There will remain, then, a certain proportion of cases in which drug treatment of all kinds has been tried and failed, and continues to fail even when tried again under the better conditions existing with rest and good hygiene in this invigorating seaside climate. When such patients fail to sleep and are driven almost insane for want of sleep, it is impossible to deny them a trial with narcotics. Yet I have seen an overtaxed journalist take astonishing doses of morphia besides really dangerous amounts of chloral and hydro-bromate of hyoscine without getting more than an hour or two of sleep and then sleep soundly after one or two treatments by the continued galvanic current from eight to fifteen cells passed directly through the brain. This was an exceptional case, but it is a constant experience with me to see electricity in some of its forms prove of the utmost value in cases of insomnia as well as in all the other forms or manifestations of nervous exhaustion. Massage is another promising auxiliary.

If these few hastily recorded results of a considerable experience with insomnia serve to help physicians who are not satisfied with the effects of the so called hypnotic drugs, my object will have been achieved. Nerve tonics are often the best hypnotics. At my last visit, this evening, a puerperal woman who had been sleeping badly, said to me, "You put some quieting medicine in that last mixture." It was simply compound syrup of the phosphates.

Atlantic City, N. J., March 1, 1887.

MEDICAL PROGRESS.

THE TOXICITY OF THE CHOLERA BACILLI AND THE TREATMENT OF CHOLERA.—Much in the course of cholera, especially in foudryante cases, points to the toxic action of the bacilli. The poison may be derived from the vegetative activity of the comma bacilli, may be a ptomaine that has been formed in the intestinal canal, or it may be secreted by the bacilli, or the bacilli in themselves may be poisonous, those that have perished in the intestinal canal being digested and acting in the manner of poisonous mushrooms. To determine upon what this toxic action depended Cantani, of Naples, by boiling sterilized a three-days pure culture of comma bacilli and injected it into the peritoneum and the subcutaneous tissue of dogs. The animals sickened with symptoms of cholera and recovered in twenty-four hours. Control injections of sterilized meat-broth gave negative results. The older the culture the less poisonous was its action. Cultures of living bacilli gave negative or almost negative results. Living cultures in *simple* meat-broth were almost without effect, while living cultures in *peptonized* broth gave rise to violent symptoms of cholera intoxication. Cantani thinks he can explain the latter observation by the luxuriant growth and the early death of the bacilli in peptonized broth, while in simple broth their growth is slow and their vitality is retained a much longer time. Cantani draws these conclusions from his experiments: 1. There is a cholera poison which is dependent on the comma bacilli. 2. The cholera poison is independent of the living bacilli found in the intestinal canal. 3. The dead bacilli yield more poison to the fluids in which they have lived than do the living bacilli. Cantani is of the opinion that the comma bacilli are in themselves poisonous, like the poisonous mushrooms. There are two indications for the treatment of cholera: to limit the multiplication of the bacilli in the intestinal canal, and to hasten the excretion of the poison from the blood. The fact that tanners escape cholera, directed Cantani's attention to tannic acid. He had constructed many years ago an enteroclysma, consisting of an irrigator holding 3 or more litres, hung up 2, 3 or 4 metres above the bed of the patient and terminating in an intestinal tube. With this apparatus he can overcome the ileo-cœcal valve in the majority of cases, and, as he has demonstrated by many experiments, also the pylorus, for infusion of senna, etc., injected by the apparatus, is vomited after fifteen to thirty minutes. In cholera he injects, by means of the irrigator, 3, 5 or 10 grams of tannic acid in 1½ to 2 litres of sterilized water of a temperature of 38, 39, or even 40° C., with 30 to 50 grams of gum arabic and 10 to 30 drops of laudanum. Prof. Maragliano, of Genoa, has employed with great success as much as 20 grams of tannic acid. The results were astonishing. After every enteroclysis the discharge ceased for six, eight or twelve hours. The sooner the treatment was begun the better results were obtained. After the cholera diarrhœa had lasted a number of days the symptoms of cholera intoxication could no longer be forestalled, though even then they were much milder. And in the premonitory diarrhœa, he had obtained the impression that the disease had frequently been aborted.

A few moments after the enteroclysis the patient goes to stool and voids one-third to one-half of the injected fluid. The injection should be made shortly after a passage, so that it may be retained as long as possible in the small intestine. Usually no more than two to six injections are required a day. Cantani states that during the Naples epidemic he was sanitary inspector to the orphan asylum for children whose parents had died with cholera. During the first weeks as many as six cholera cases developed a day which had to be taken to the cholera hospital. He then began to inject the hot tannic solution as soon as diarrhœa began to appear, and from this time, of several hundreds of orphans admitted to the institution, he had seventy-six cases of mild and thirty-two cases of severe diarrhœa (fifteen with vomiting) which, from the genius epidemicus, must be ascribed to cholera infection, and in none of them did the specific symptoms of cholera declare themselves. This method has gained great popularity among the profession and the people of Italy. Tannic acid in 1 per cent. solution of 37° C. destroys the bacilli, and in ½ per cent. solution prevents their further development. The stimulating and the vivi-

fying effects of the hot injections are of great importance in this treatment.

No method of treatment fulfils better the second indication, to hasten the excretion of the cholera poison from the system, than does hypodermoclysis of hot saline solution. Cantani employs in the algid stage ½ to 1 litre of sterilized water at a temperature of 38 to 39° C., in which 4 per cent. of sodium chloride and 3 per cent. of sodium carbonate have been dissolved. Of 187 most desperate cases, that had been given up, he was able to save 60 per cent., while the mortality for this class of cases, according to Griesinger, is 80 per cent.; a reduction of the death-rate one-half. Hypodermoclysis is borne well. Even in the cases that finally succumb to cholera typhoid the temporary good results are astonishing. The injections are best used in the sides of the abdomen below the costal arches, where the skin can be most easily pricked open and the solution is rapidly absorbed.

In conclusion, Cantani recommends the tannic enteroclysis as a prophylactic during the prevalence of cholera epidemics. The chief of the cholera hospital in Buda-Pest has adopted Cantani's method, and from it alone has obtained positive results in the treatment of cholera.—*St. Petersb. Med. Wochenschr.*, No. 52, 1886.

Terpine in the Treatment of Neuralgia.—Dr. Ducroux, in a paper recently read before the Société Médico-pratique, described some cases showing the good effects of terpine in neuralgia. The first was that of a woman, aged 47. Two years before, she had been attacked with neuralgia, consequent on occupying a damp house. Sulphate of quinine, and afterwards aconitine, gave temporary relief. On February 15, 1886, she was suffering from constant neuralgia on the right side of the lower jaw, in the right cheek and temple. There was also pain in the supra-orbital notch, the mental foramen, and in the occiput. The patient complained of a constant feeling of heaviness in the head, and of cold in right side of head. Terpine (.60 centigramme) was given in three pills between meals, during three days. On February 19, considerable relief was obtained. The pains and the feeling of cold had disappeared, and also the heaviness of head, which had persisted for two years. The pains having returned in a few days, terpine was again administered in the same manner on February 25. The pains ceased, then recommenced, but in a milder form, and without any heaviness of the head. Terpine was again given on March 8. Neuralgia having again come on, doses of .80 centigramme were administered in four pills, beginning on March 16, and being continued for three days. During the month of April, these doses were repeated at intervals. At the end of that month, the back of the head was still sensitive, but all other pains had ceased. At the beginning of May and June, terpine was again administered, the pains having reappeared. On June 15, the patient was able to go out without extra covering on the head. Dr. Ducroux is of opinion that the patient may be again obliged to have recourse to terpine, as the neuralgia shows a tendency to recur, though in a milder form. The therapeutic effect of the terpine seems to cease after a few days. In cases of obstinate neuralgia, it might be advisable to give it for three days every week. The second case was that of a married woman, aged 35. At the age of 22 she had intermittent fever. From the age of 13 or 14, she had suffered from headache from time to time, and when she was 22 she had intermittent fever. Menstruation had ceased for six years. A week ago she was attacked with pain in the right side of the head differing from her habitual headache. This pain, which gradually increased, extended in front, around the ear, and over the temple and cheek, and behind, over the mastoid region. There was also pain in the external auditory meatus. The pains were accompanied by a humming in the ears. Terpine (.60 centigramme) was given in three pills, to be taken between meals. On April 29, the pains had disappeared, but the humming in the ears continued; .50 centigramme of sulphate of quinine was administered during three days. This had no effect. A few days before May 17, the humming in the ears diminished, and took a different form. The sound in the ears was no longer that of humming but of running water. The patient could neither hear herself nor others speak. Terpine was again administered in the same way. The sounds in the ears diminished and completely disappeared two or three days after the last dose. Dr. Ducroux believes that the disappearance of the pains was due to the use of terpine, and that it had some effect upon the sounds in the ears. The third case was that of a man aged 23. Fifteen years before he had suffered from bronchitis, with hæmoptysis. In May, 1885, he was attacked with severe pain over the right eye, in the supra-orbital notch, and about the occiput. A blister was applied to the temple, and dressed with 1 centigramme of morphine; terpine (.60 centigramme) was given in the way already described. The first morphine dressing did not relieve the pain, but the second, applied the following evening, was more effectual. The patient had then taken three terpine pills. As the improvement continued, only eight pills were administered in the three days following the second day. The neuralgia was completely cured. Dr. Ducroux attributes this result to terpine, as the morphine application produced no effect.—*British Medical Journal*, Jan. 8, 1887.

Schede's Method of Dressing Wounds.—Professor Mikulicz communicates to the *Przeglad Lekarski* an account of fifty cases of surgical operations which were treated by the method recommended by Dr. Schede at the last Surgical Congress in Berlin—viz., to allow blood to fill the wound, and to lie between the lips after they are brought together, any deficiency in the quantity of blood being remedied by the use of the knife, the idea being that the blood either actually becomes organized or serves as a protection for the granulations as they are formed. The wound is covered with protective, to prevent evaporation. Professor Mikulicz's observations included six resections of joints, four amputa-

tions, six dissections, two ligatures of arteries, seven extirpations of large tumors, etc. In thirty-six of the fifty cases union took place without suppuration, in four there was extensive formation of pus, in five superficial suppuration starting from the points of suture, and in the remaining cases pus had existed previously to the operation, and the disinfection at the time not having been complete, it continued subsequently. The general condition of the patients was highly satisfactory, even in those cases where suppuration occurred, the temperature in no case rising much beyond normal. The dressings were not removed or changed for at least a fortnight, sometimes not for a month. This appears to be of great advantage in the case of bone and joint operations, where complete immobility of the parts is a desideratum. Other specified advantages attributed to this plan are that wounds attended with a loss of substance rapidly fill up, and the cicatrices that form are peculiarly soft and smooth. Professor Mikulicz does not find, as Schede did, that the existence of silver sutures in osseous lesions has any unfavorable influence on the cicatrization of the wound. He remarks that it is important not to bind the external dressings too tightly to the wound.—*Lancet*, March 19, 1887.

"DEAD SPACE" IN CERTAIN CHEMICAL REACTIONS.—The most important discovery now spoken of in Berlin medical society is that of PROF. LIEBREICH, who only a year ago presented us with the new basis for ointments. His latest discovery is more in the sphere of pure chemistry, but it is also interesting to physicians. Professor Leibreich observed that when reaction takes place only some time after mixing certain liquids together, it does not occur throughout the whole liquid; in some parts a space is left, in which no reaction is seen, and this he calls the "dead space." He has observed the same in several reactions—for instance, on mingling sulphuric acid, iodic acid, and starch together, or hydrate of chloral with carbonate of sodium, or chloride of gold, sodium lye and sugar, and in many other cases. The so-called "dead space" is not always the same, but varies according to the kind of vessels into which the liquids are poured. If, for instance, narrow tubes are used, the "dead space" is very small, while in capillary tubes no reaction whatever takes place. If the liquids are poured into closed vessels with rigid sides, the "dead space" cannot be seen, but if the closed vessels are of membranous structure, it may be observed. Thus, for instance, in a prepared rabbit's bladder the "dead space" is at the top and bottom, whilst the reaction takes place in the middle in the shape of the yolk of an egg. If a piece of gut is taken and divided by means of little rings into a number of small compartments, and if one of the above-mentioned liquids is poured into it, in each of the compartments the reaction is seen taking place in the middle, while at the top and bottom there is a "dead space." As the "dead space" depends upon the size of the vessel, it may be inferred that for every chemical mixture yielding a reaction, proportions can be imagined in which reaction ceases. The laws of reaction, therefore, are dependent on the space in which the effect takes place, and hence, these observations have an important bearing on the organism. In testing the effect of certain medicinal agents, not only must their chemical constitution be taken into account, but the laws governing their reaction in large and small spaces respectively.—*British Medical Journal*, January 8, 1887.

ADONIS VERNALIS IN HEART DISEASE.—DR. J. G. HERRMANN, of St. Louis, writes that he has recently had considerable experience with the use of adonis vernalis in cardiac affections. He believes that his experience, which has extended over ten months, warrants his statement that, while free from the evil effects of digitalis, infusions of adonis vernalis are quite as efficacious as that drug. He prescribes it in the form of an infusion, of the strength of three drachms of the herb to six ounces; of this he gives a tablespoonful every two hours. He refers to several cases in which this drug proved successful even after digitalis had failed. One was a case in which the feet were highly œdematous, and there was general anasarca from heart-lesion. In two weeks of treatment with the infusion of adonis vernalis every two hours, in tablespoonful doses, almost perfect relief was secured. So also he states that he has caused great relief to a case of ascites, produced through heart disease. He noticed that it increased the fulness of the pulse and strengthened the cardiac pulsation. In asthma also he has combined it with quebracho with very satisfactory results.

The following are some of the prescriptions which he has employed:

℞ Fl. ext. adonis vernalis.
Sig.—From 2 to 6 drops, as necessary.

℞ Fl. ext. adon. vernal..... ℥ ss
Syr. menth. pip..... ʒ vi
Combined as desired sometimes with brom. sodium and tr. opii camph.
Sig.—ʒi to ʒi every two hours daily.

In asthma:

℞ Fl. ext. adonis vernalis..... ʒss
Fl. ext. quebracho..... ʒii
Tr. opii camph..... ʒii
Syr. menth. pip..... ʒvi ♏
Sig.—ʒi every two hours.

—*Therapeutic Gazette*, March 15, 1884.

THE ANILINE TREATMENT OF PHTHISIS.—DR. KREMIANSKI'S idea of curing tuberculosis by converting the blood into a dilute solution of aniline has been tried by Dr. Nesteroff on a patient who was about to be sent to the south, with the result that he became rapidly worse and died in a fortnight. The Moscow Medical Society, before whom the matter was brought were nearly unanimous in the opinion that the aniline treatment would be not merely useless, but positively dangerous.—*Lancet*, April 2, 1887.

"BLACK DROP" AND CARBOLIC ACID IN PAINFUL EMESIS.—PECHOLIER uses liquified carbolic acid ʒij, acetum opii ʒvj, gtt. 4 in sweetened water t. i. d. five or ten minutes before meals.—*Therap. Monatshefte*, March, 1887.

THE
Journal of the American Medical Association.
PUBLISHED WEEKLY.

THE EDITOR OF THIS JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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SATURDAY, APRIL 23, 1887.

A NEW PATHOLOGY OF PREGNANCY.

In the March and April numbers of the *American Journal of Obstetrics*, may be found a most interesting article by DR. A. F. A. KING, of Washington, entitled "A New Explanation of the Renal Troubles, Eclampsia, and other Pathological Phenomena of Pregnancy and Labor." The purpose of the paper is to present a new explanation (as the author thinks) of the etiological relation between pregnancy and the nephritic derangements that so often attend it; though the paper does not deal with renal difficulties alone, but other correlative pathological states also.

Passing over the preliminary discussion, though it is interesting, we come to the following brief statement of the theory: Disturbances in the renal circulation and renal functions are produced chiefly by pressure of the gravid uterus upon the abdominal aorta or its branches, or upon the vena cava or its branches, or upon both or all of these, *in consequence of the child and womb not maintaining during pregnancy their normal lateral obliquity above the pelvic brim.* This, says Dr. King, is the pith of the whole matter. Before going further, however, it is necessary to define what is meant by the *normal attitude of the child in utero during pregnancy, before labor begins*, and the *normal position of the gravid uterus.* In regard to the first, it must be understood that it does not refer to the attitude or presentation of the child during labor, but during pregnancy before labor begins. He defines this attitude as follows: The normal "presentation" and "position" of the fœtus *in utero* during pregnancy, before labor begins, is the dorso-anterior position of an oblique presentation (commonly known as a transverse presentation). A head presentation (presentation of the head towards the centre of the canal of the pelvis and os uteri, with the long axis of the child parallel with the axis of the plane of the pelvic brim) is therefore abnormal.

The normal position of the gravid uterus is thus defined: The normal position of the gravid uterus, *in abdomine*, during the later months of pregnancy, before labor begins, is the lateral oblique position corresponding, more or less, with the oblique position of the child; the fundus uteri, maintaining the pelvic extremity of the fœtus, being usually directed towards the right side (exceptionally to the left) of the lumbar vertebræ. This definition of course, applies to the position of the uterus as shown by abdominal palpation, the apparent position being partly due to the shape of the uterus as it conforms to the shape of its contents; vaginal examination will show that the os and cervix have little or no deviation from the median line, while the fundus is towards one side of the woman's spine.

Having stated that the renal troubles, etc., are produced in consequence of the child and womb not retaining (or maintaining) their normal lateral obliquity *above the pelvic brim*, Dr. King now draws a contrast between the abdominal and pelvic cavities. The womb and child having risen, after the fifth month, from the pelvic to the abdominal cavity, "in the latter they should remain until the advent of labor. The pelvic canal, in so far as it is concerned with reproduction after this period of gestation, is simply, or chiefly, the channel of exit, and no part of the child should again enter here until it is ready to go out and be born." It should remain entirely within the abdominal cavity until the time of labor. This leads to a remark that may astonish many obstetricians, but which, though lacking in direct proof, is certainly in accord with reason: normal reproduction is the same in primiparæ as in multiparæ. That is to say, under *normal* conditions, there is no reason why in multiparæ the head of the child should rest during pregnancy upon one of the iliac fossæ, and in primiparæ should descend into the pelvic cavity three months before full term; if such be the case, why do obstetricians teach that descent into the pelvic cavity is (*not* the first, but) the second stage in the mechanism of labor? Can it be, asks Dr. King, that this second step in the mechanism of labor *normally* occurs in primiparæ three months before it is time for labor to begin? He therefore believes that the oblique presentation, with the lower end of the fœtus resting upon an iliac fossa, is normal for primiparæ as well as multiparæ.

If what Dr. King calls the "normal obliquity" of the womb and child be maintained during pregnancy, there will be no injurious compression on any blood-vessels, with the usual dorso-anterior position of the child. The long axis of the child, when thus obliquely placed, explains Dr. King, will occupy a *trebly* complex diagonal position: oblique to the horizon, the breech being higher than the head; oblique laterally, the breech to the right, the head to the left; and oblique antero-posteriorly, the head more in front, the breech more behind. With this position there is space posteriorly for the projecting lumbar vertebræ and the large vessels placed upon them. So also, the lower part of the gravid uterus, containing the fœtal head, resting upon the psoas and iliacus muscles in the iliac fossa, will, on account of the downward and forward inclination of this base, tend to glide forwards, away from the left side of the spine, away from the large vessels. In this position there is most economy of space. But with the womb and fœtus in a vertical position, that is, with their long axis in line with the axis of the plane of the pelvic brim, there is no economy of space; they are crowded by their abdominal surroundings, the crowding being towards the lumbar vertebræ and the large blood-vessels.

We now come to the question, will pressure of the gravid womb upon the aorta, vena cava, and their branches produce renal trouble? and we may answer this affirmatively without discussion. To this we may add the effect of compression of the ureters upon the kidney, for admitting either one by no means excludes the other; in fact, it is more than likely that a body compressing one will compress the other at the same time. Now, when the head presents during pregnancy at the brim, and descends into it three months before full term, all neighboring canals, whether arteries, veins, ureters, or lymphatics, may receive disastrous pressure and interference with the transit of their contents. Aortic and vena-caval compression during pregnancy and labor are easily diagnosticated. As a point of exclusive diagnosis of the former Dr. King gives feeling the pulsation of the femoral arteries below Poupart's ligament. In twenty-one pregnant women examined in this way the femoral pulses could be easily felt, and appeared to possess their normal tension, but in none of these women was there any abnormal tension of the radial pulse, nor any albuminuria or other indication of renal derangement.

Having proceeded thus far, Dr. King hopes to show that eclampsia during pregnancy and labor, the several kinds of cases and their alleged preceding pathological states, may be traced back to malposition of the child-presentation of one end of the fœtal ovoid instead of an oblique presentation. As to the cases with albuminuria, nephritis and uræmia, we know that renal trouble is the prime cause; but as regards the cases explicable upon the "uterine irritation" theory of Tyler Smith, we must account for this abnormal irritation of the uterine nerves. It certainly is not physiological; "and with our hitherto prevalent notions of what constitutes normal pregnancy, the occurrence of eclampsia from uterine irritation before labor begins is the more difficult. When, however, we have decided that conditions hitherto called normal are really abnormal, the matter becomes more easy. I therefore beg to maintain that premature obliteration of the cervix uteri, premature distension of the cervical canal and lower uterine segment, with thinning of its muscular wall, and tearing of its decidua; and the premature descent of the lower end of the fœtal ovoid below the pelvic brim;" all due to a want of the lateral obliquity of the fœtus during pregnancy, "are amply sufficient to account for the uterine irritation. Whether the convulsions be due to uræmic intoxication, to uterine irritation, to cerebral hyperæmia, or to reflex local irritation in other viscera, or to several of these coincidently, they may all be accounted for by pressure of the gravid womb and child, when the normal obliquity of the latter is wanting."

The causes of the disturbance of the normal lateral obliquity of the womb and child, and of their premature descent below the pelvic brim, especially in primiparæ, are, according to Dr. King, dress, corsets, coitus, and certain abnormal postures. It would certainly add materially to our knowledge of the influence of these factors could a study of pregnancy be made among those nations whose only clothing is the atmosphere.

We now come to a question which must be more correctly answered in the future than is now possible: Do convulsions, nephritis, etc., occur in cases of "transverse" presentation during labor, and in most of which cases the child was, it may be presumed, oblique and wholly above the pelvic brim during pregnancy? In discussing the "obstetric treatment" of eclampsia authors refer almost exclusively to head presentations. In regard to "obstetric indications" in transverse presentations they are silent; and we may conclude, though not with certainty, that such cases are rarely or never met with. It is interesting to note that Schauta has found that in 315 cases of eclampsia (in 134,345 deliveries in the Vienna Hospital from 1834 to June, 1880,) the head presented

304 times, face, 4; breech, 5; foot, 1; and transverse 1. In 306 of these cases 253 were primiparæ. From an analysis of Rambotham's 59 cases of eclampsia, it is fair to assume that there was not one of transverse presentation. Of the 14 cases in 7,404 deliveries in Guy's Hospital Lying-in Charity, there were 13 head presentations, no transverse. In short, in a total of 300,018 labor cases collected by Dr. King, with 212 cases of eclampsia, there is only *one* distinctly isolated coincident occurrence of eclampsia and transverse presentation during labor; and in regard to this case there is no concise account.

As Dr. King very fairly adduces arguments against his theory, and discusses them impartially, yet without at all disproving it, we may now rest the case with the reader, but with the regret that we cannot go more fully into the subject. The theory, or explanation, is reasonable, and the paper is one of rare interest.

LOUISIANA STATE MEDICAL SOCIETY.

The ninth annual meeting of this Society was held in Alexandria, La., April 11, 12, 13, 1887. Some valuable papers and reports were presented, and several topics of special interest to the profession of that State were discussed. The following officers were elected for the ensuing year: President, Dr. Joseph Jones, New Orleans, La.; Vice-Presidents, Drs. F. H. Parham, of New Orleans, H. D. Bruns, of New Orleans, Thomas Hebert, of New Iberia, F. M. Thornhill, of Arcadia, I. J. Newton, of Bastrop, and T. T. Tarleton, of St. Landry; Secretary, Dr. P. B. McCutcheon, of New Orleans. The next annual meeting is to be held at Monroe, La., on the third Wednesday in April, 1888.

TENNESSEE STATE MEDICAL SOCIETY.—At the annual meeting of this Society, held in Nashville, April 12 and 13, 1887, the following officers were elected for the ensuing year: President, Dr. P. D. Sim, of Chattanooga; first Vice-President, Dr. Happel, of Trenton; second Vice-President, Dr. R. Douglas, of Nashville; third Vice-President, Dr. J. M. Masters, of Knoxville; Secretary, Dr. Ambrose Morrison, and Treasurer, R. Cheatham.

The Society contributed $250 for the Treasury of the International Medical Congress to be held in Washington, D. C. Its next annual meeting, in 1888, will be held at Knoxville.

ADDRESSES IN THE GENERAL SESSIONS OF THE INTERNATIONAL MEDICAL CONGRESS.—Many of the medical journals in this and other countries have announced the fact that Professor F. Semmola, of Naples, Italy, is to give a general address on "Bacteriology and its Clinical Therapeutics," to the Congress in general session; and we will add that general addresses are also promised by Dr. Neudorfer, of Vienna, Austria, "On the Military Medicine of the Present and of the Near Future;" Dr. Esmarch, of Kiel, Germany, "On Bloodless Operations in Surgery;" Dr. Lutaud, of Paris, France, "On the Influence of the Discoveries of American Surgeons on the Development of Gynecology in Europe," and Dr. Austin Flint, of New York, N. Y., on "Fever, Its Cause, Mechanism and Rational Treatment"—all topics of interest to the whole profession.

JAMES STEWART JEWELL, M.D., died at his residence in this city on the morning of April 18, 1887, aged 49 years and 7 months, after many months of progressive exhaustion. For mental activity, persevering industry, extent and accuracy of knowledge of the specialty to which he was devoted, and in purity of Christian character, Dr. Jewell will be remembered and honored by all who knew him. A more extended sketch of his life and labors will be given next week in the proper department of THE JOURNAL.

SOCIETY PROCEEDINGS.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, March 21, 1887.

THE PRESIDENT, EDMUND J. DOERING, M.D., IN THE CHAIR.

DR. JAMES I. TUCKER reported a case of

HERPES OMO-BRACHIALIS.

This class of skin diseases belongs to the neurological group. J. P., aged 36, had for many years been an invalid. In his youth he had been sexually imtemperate and had used liquor to excess. He was of a family every member of which had been afflicted with some form of nervous disorder. When he came under the author's care five years ago he was emaciated, anæmic and suffering from profuse diarrhœa. He had pursued the vocation of proof reader until six months previous, when he broke down. His habits were and had been for some time past good in every respect. His principal trouble was a cough of deep, sepulchral sound, which gave him no rest night or day. No mucous or other foreign matter was expectorated. On the 3rd of December there was a neuralgic pain in the right shoulder; on the next day an eruption appeared there attended with an almost insufferable sense of heat.

The vascular eruption was fully developed by the 9th and occupied the shoulder and outward aspect of the arm, following the branch of the brachial plexus and terminating in an immense boil on the ball of the thumb. These vesicles passed through the various stages of vascular irritation, inflammation and resolution, and had entirely disappeared by December 15th. And more remarkable still the chronic cough disappeared altogether. To relieve the pain and burning sensation I used hot fomentations and oleate of cocaine and ointment of glycerine. It was of no use to employ opiates, for although the patient was nervous and sleepless, morphia had no effect upon him. He took 240 grains of chloral hydrate of his own accord at a single dose without any other effect than to make him slightly delirious. The question arises what may have been the relation between the cough and the eruption and why did the cough cease on the disappearance of the eruption?

DR. JOSEPH ZEISLER, in opening the discussion, thought cases of herpes zoster were comparatively rare here; in the last two years he had met with only one, affecting the fourth and fifth intercostal spaces of the right side. Although physiological and anatomical examinations have not yet proven the existence of true trophic fibres in the nerves, there can be no doubt that zoster must be considered as a trophoneurotic disease. The case was especially interesting from the possibility of syphilis being the cause of the disorder, and from the large area involved.

DR. TUCKER said that one point in reference to zoster, especially zoster frontalis, is that chronic bronchitis is sure to follow it, and life generaly terminates in that way.

DR. CHARLES WARRINGTON EARLE asked if the author had not found that these cases almost always require the same tonic treatment that neuralgias do, viz., the exhibition of quinine and iron, and a good, generous diet, before a cure can be effected.

DR. TUCKER replied that all the patients he had seen suffering from the disease have been depleted, and certainly the remedies just mentioned would be needed.

DR. E. L. HOLMES reported a case of

CHANCRE OF THE EYELID.

Cases of chancre of the lids are of interest not so much on account of their rareness as of the difficulty in establishing a certain and early diagnosis, and the fact that suspicion even may not be awakened till quite late in the development. It is many years, probably twenty, since I have seen a case of primary specific sore on the genital organs. If I remember correctly what I formerly observed and what I learned from competent authorities, it is undoubtedly true that even an ulcer on the genital organs cannot always be easily diagnosticated. The swelling of the preauricular glands is quite often the result of simple abscess of the lids, especially if it is situated near the external angle. When, however, a circumscribed disease of the lids is accompanied by multiple preauricular and submaxillary glandular enlargement, suspicion becomes almost certainty. This has been the fact in four of the five cases which I have seen. In one case there was not sufficient swelling of the glands to attract either my attention or that of the patient.

Some months ago I mentioned in this Society the case of a laborer in a rolling mill who received a severe burn on the side of the body from a "flash" and on the left upper lid from a drop of the molten slag. This small round burn became infected from some source unknown to the patient, and after some time presented the appearance of a true chancre with glandular swellings and characteristic eruptions. No evidence of a lesion could be found on the genital organs. Every symptom disappeared under energetic mercurial treatment.

Very recently Mr. P. M., 45 years of age, married, also a workman in a rolling mill received a "flash," a portion of which struck the left upper lid and inflicted quite a severe burn of the integument. The conjunctiva was also slightly burned. At the end of a week the patient came to me with the lids much swollen, red and tender, with a hard, dry, thin and red incrustation as one sees on a superficial abrasion of the skin. The patient stated that he had rubbed the lids several times during the week with the back of his hand, which was more or less covered with grime and sand. He did this to relieve the irritation of the eye. There was nothing in the appearance of the lids or of the eye to excite my suspicion of any complication. For ten days I treated the eye with mild lotions and ointments without the slightest benefit. On the appearance of preauricular and submaxillary swelling I referred the patient to Dr. Hyde. I suspected the true nature of the case, although there was still no trace of ulceration on the lid. Prof. Hyde could simply suspect, but preferred to delay definite opinion for a few days. In a week or more the characteristic eruption appeared with increased severity of the local symptoms. Large doses of blue mass and iodide of potassium relieved all the symptoms, local as well as general. The eye assumed its normal appearance in about three weeks.

DR. F. C. HOTZ said that as the author wished the discussion to be conducted on the line of experience of general practitioners, not specialists, he hardly felt that he was the right person to open it. As the author states, these primary syphilitic ulcerations, chancres of the eyelids, are of very rare occurrence, and in a long experience of private and hospital practice in this country and Europe he could remember but one case coming under his observation of a primary syphilitic sore, and it was located on the conjunctival surface of the upper lid, a most curious place for the infection. A patient came to him about two years ago with the lid tender and very much swollen, and on turning it he saw a large ulcer with all the typical appearance of chancre of the prepuce. There was no doubt of its syphilitic character, but it puzzled him as to how the infection could have taken place there. On questioning the patient he learned that four or five weeks previously he got a little cinder or something in his eye and his room-mate turned the upper lid, saw the foreign substance and removed it with his tongue. Further questioning brought out the fact that this man was syphilitic.

Dr. Joseph Zeisler mentioned the possibility of contamination by kissing and by instruments. The most peculiar cases of chancre in regard to the locality, had been related by Deloir in his "Decours sur la Syphilis," some of which could only be explained by certain French habits.

Dr. William T. Belfield said, in reference to one point raised by Dr. Holmes, viz., infection without ulceration, he thought it was a well known fact that it has frequently occurred. There is nothing about syphilitic infection that implies ulceration. The morbid material is introduced into the skin and occasions a certain amount of inflammation at the point of infection. Whether that results in ulceration depends upon the nutrition the parts receive, if they are well nourished there need be no ulcer, but as a rule some of the cells that are formed die and ulceration is the result. Occasionally the inflammation is so slight that neither ulceration nor even induration is produced locally; since syphilis is undeniably inoculated—in exceptional cases—without the production of any features of the hard chancre. Nor is the syphilitic the only virus whose local effects are thus variable; thus, the virus of charbon, or "wool sorters' disease" while usually producing a malignant pustule at the point of inoculation, may be communicated without any local ulceration, indeed by simple inhalation.

Dr. D. A. K. Steele read a paper entitled

INTUSSUSCEPTION IN INFANTS.

Intussusception or invagination of the upper into the lower part of the intestine, embraces three layers of the bowel which include all the coats of the intestines. The diagnosis of intussusception in an infant is usually an easy matter; a baby previously in good health, is taken with sudden violent vomiting, with loud cries and evidence of abdominal pain and uneasiness occurring at frequent irregular intervals accompanied with severe straining and the passage at first of fecal matter, then a mucous tinged with blood, and later of blood alone in considerable quantities. Thirst, anxious expression and collapse are marked symptoms. A distinct sausage shaped tumor can frequently be felt at the seat of the obstruction in the abdomen.

Treatment may be divided into medicinal, mechanical and operative. The medicinal plan is palliative but rarely curative.

The author described the details of the mechanical plan of treatment as follows: Having clearly established a diagnosis of intussusception and previously given an opiate to quiet all peristalsis. I anæsthetize the child with chloroform and then carry a rectal tube or large catheter about six inches within the anus. Attached to this tube I have a flexible rubber tube two or three feet long attached to a small glass funnel. Into this funnel I pour alternately solutions of soda bi carbonate and tartaric acid, thus generating carbonic acid gas and rapidly and safely inflating the large intestine. Three drachms of each will generate enough gas to completely distend the colon of a child. If this pressure is not sufficient to relieve the obstructions, I attach an ordinary double bulb syringe and inflate with air about as much a I think the bowl will stand, while the abdomen is being carefully manipulated by an assistant. I patiently, persistently and repeatedly employ these measures coupled with massage, abdominal taxis, inversion of child, etc., from twenty-four to forty-eight hours, when, if there is no relief, I advise laparotomy. In case the obstruction is at the ileo cæcal valve and is irreducible and an artificial anus cannot be readily formed, an ileo-colotomy or implantation of the divided ileum above the obstruction into a slit-like orifice in the colon below the obstruction would be justifiable procedure. Senn's recent experiments on animals prove that it can be done with success. Several cases were reported which had been successfully treated by the mechanical method.

Dr. C. W. Earle, in opening the discussion, said that Dr. Steele had presented the symptoms of this terrible difficulty so fully that there is little more to be said. He was glad that the author dwelt upon the symptom of constriction of part of the bowel, which is probably one of the chief causes for this accident. He must take issue with him in regard to the ease with which he diagnosticates some of these cases. Dr. Steele's experience has been very different from his own when he is able to say that the diagnosis of intussusception in a child is made out without much difficulty. In a number of cases he has seen there has been an absence of all the symptoms which the author has narrated. He remembered a case which occurred several years ago in an outside village, in which he made the post-mortem examination and found a very distinct intussusception. In that case we could get none of the symptoms Dr. Steele has spoken of; there was no tenesmus, no bloody discharge, no protrusion of the invaginated portion of the intestine, no sausage-shaped tumor of the abdomen, and yet the child had intussusception, probably from eating a large amount of cherries as a number of cherry pits were found in the bowel at the autopsy.

As a medical man it might be expected that he would oppose a surgical procedure, but the medical treatment of this difficulty is so absolutely hopeless that it seems to him if laparotomy offers anything at all we should be ready to accept any procedure the surgeons have to offer. However, the results of Dr. Steele's process of treatment by inversion and shaking and filling the bowel are really better than those of surgeons up to this time. It is a well known fact that laparotomy for the relief of intussusception is followed by greater mortality than laparotomy for any other cause. But if the diagnosis is well made out, and particularly if the pulse is rapid and the child shows profound symptoms which point unmistakably to this difficulty, it seems to me we are hardly justified in waiting three days; he thought at the end of twenty-four hours we should cease to try the ordinary methods and proceed to do the operation.

Dr. F. E. Waxham said he agreed with Dr. Earle in regard to the difficulty of making the diagnosis in cases of intussusception, especially in infants. In many cases he thought the diagnosis very difficult indeed, and sometimes a certain and absolute diag-

nosis is almost impossible. This is true for the reason that all the symptoms that have been enumerated as characteristic of the disease are not present in every case; the tumor is as frequently absent as present, if a small amount of intestine is involved in the intussusception it is impossible to detect it. Again, the bloody discharges are frequently absent, and the protrusion of the intestine from the anus which is given as a prominent symptom, is often absent. Indeed, in many cases the incessant vomiting, obstinate constipation and the tenesmus are the only symptoms. He would refer to the differential diagnosis of intussusception: fecal impaction occasionally presents symptoms analagous to intussusception. Impaction is rare in infancy, but is more frequently observed in the adult and in the older children. It may give rise to a tumor, vomiting, tenesmus, tympanites and even protrusion of the intestine from the anus. These symptoms closely resemble those of intussusception, but in impaction the vomiting is not usually as obstinate and large, copious enemas will cause the disappearance of the impaction. Again, in impaction we do not get the rapid and great prostration that is observed in intussusception. Cholera infantum may be mistaken for intussusception, for we have the same rapid and great prostration and collapse, we have the incessant vomiting, but in cholera infantum we have the large, copious watery passages instead of the obstinate constipation followed by the bloody discharges. Dysentery presents symptoms closely resembling intussusception in many cases; we have vomiting tensmus, frequent straining, bloody passages and not unfrequently protrusion of the intestine from the anus, but in dysentery the vomiting is not so obstinate nor the prostration so great. Typhlitis may present symptoms very closely resembling intussusception, as the result of inflammation at the ileo-cæcal valve we will have vomiting, intestinal pain, tympanitas, obstinate constipation which it is impossible oftentimes to overcome. The diagnosis in these cases is very difficult, and I know of one case of typhlitis where several surgeons thought seriously of operating for a sus pected intussusception.

But in typhlitis the tumor, which results from inflammation and infiltration is in the right side, while in intussusception the tumor when observed is in the left iliac region or in the transverse colon, for although the intussusception takes place at the ileo-cæcal valve if the tumor is large enough to be observed the smaller intestine rolls in the larger until the tumor appears in the left side instead of the right. In typhlitis we have a history of acute inflammation, not so in case of intussusception. Peritonitis will also frequently give rise to symptoms resembling those of intussusception; we have frequent vomiting, obstinate constipation, abdominal pain and tym panites. He remembered a case that was treated for several days for intussusception, and not until the administration of morphia and lime water was the vomiting overcome and a correct diagnosis made. The vomiting could not have been relieved by medication in a case of intussusception. In peritonitis we usually have the gradual onset of the disease, more sudden in case of intussusception. In peritonitis we have the symptoms of acute inflammation existing for several days before we get symptoms of obstruction. In intussusception the symptoms of obstruction and shock appear early. In peritonitis, although the constipation is often obstinate, yet the vomiting is not as frequent and uncontrollable as in intussusception, nor do we have the rapid prostration in the former disease that is so characteristic of the latter. There are other forms of obstruction, such as the twisting of the intestine upon itself, pressure upon the intestine by a band of lymph, or strangulation of the intestine in a congenital opening in the diaphragm, any of which will give rise to symptoms exactly corresponding to intussusception.

In regard to the treatment, little remains to be said. Not infrequently when an intussusception is suspected, the cases are treated with physic, castor oil, croton oil, or quicksilver, in order to prove the diagnosis. This treatment should be mentioned only to be condemned. No remedies should be given that will increase the peristaltic contraction, but opiates given to prevent it. Quicksilver may be used with benefit in those cases where the invagination is low down in the bowel, or where the intussusception is of such extent that it reaches into the lower bowel, or perhaps near the anus. In such cases the child should be inverted and the quicksilver used per rectum, and the pressure and weight of the quicksilver will assist greatly in the restoration of the invaginated mass. He fully agreed in the recommendation of laparotomy in cases where mechanical measures fail. When we have faithfully but unsuccessfully tried medicinal and mechanical measures, he thought we should resort to laparotomy, providing a positive diagnosis can be made, and we should not delay too long, for the longer the operation is delayed the less the chances are of recovery.

DR. A. E. HOADLEY wished to make one suggestion as to the surgical treatment of these cases. The author, on going into the surgical treatment thoroughly, had left the idea, he thought, that about all that can be done for cases of acute invagination of the intestine is to unfold the invaginated intestine, and if this cannot be done, it must be excised and an artificial anus made. Of course he does not advise the resection of the invagination, but advises an artificial anus as a temporary means. Now where this invagination is acute it obstructs the lumen of the intestine, and all the urgent symptoms are consequent on the obstruction of the bowels, not that the tissues are liable to ulceration or sloughing provided that the tension above the invagination is promply relieved. If the tension above the stricture is relieved the tissues at the stricture can take care of themselves, the strangulation will be immediately relieved in a measure, so that the circulation can be carried on at the seat of invagination. Relief of tension controls peristalsis and no further invagination will take place, congestion will be relieved and the tissues saved. There has been an operation suggested for that purpose which is applicable in all cases where to unfold the invagination is more dangerous than to leave it alone or excise and establish

an artificial anus. The operation is to bring that portion of bowel above the invagination to that immediately below and there make an opening in each, stitch the openings together, and thus form an outlet for the distended intestine above. In case the invaginated portion loses its vitality there is no objection to its sloughing, as the slough can readily pass down, as the gut is not closed above. In his own practice he had seen two cases of recovery from intussusception, in which there was no doubt about the diagnosis; in one case a sausage-shaped tumor could be felt across the median line, with all the acute symptoms except, perhaps, the bloody discharges. The invaginations in these cases were of the colon, and not ileo-cæcal, and the lumen of the gut was not completely closed. There was no particular distension, but there was a large and painful tumor, with tenesmus and diarrhœa. In one case, in which the diagnosis was confirmed by several physicians, the tumor remained for more than a year, and at any time, if pressure was made over it, there would be tenesmus of the bowel, yet the child, who is now 8 years old, has fully recovered. He has a patient now under treatment in whom two and a half months ago there was probably intussusception of the colon. A painful tumor presented on the left side which could be plainly felt from day to day, associated with all the irritable symptoms of the bowels, but the invagination did not occlude the lumen of the bowel, therefore the most distressing symptoms were absent. This tumor has gradually grown smaller, less tender, less painful, and the child is now about free from the irritation caused by that invagination.

Dr. J. Frank asked if, when the invagination is situated above the ileo cæcal valve, water injected would pass the valve itself? He hardly thought the small amounts the author speaks of having injected would have reduced the invagination. He was not opposed to giving cathartics in cases where they might do good, and thought sometimes they do not do as much harm as an operation. The intestines are held up by mesenteries, and if the principal part of the intestine cannot invaginate itself where it is held fast it cannot come down. A cathartic which produces a peristalsis is always towards the rectum, and if the part is held up by the mesentery, the peristaltic motion will not bring it down any further, and yet will relieve the intussusception. He thought many cases are cured by cathartics. He had a case some time ago where the child was pulseless and cold, the eyes turned on the sockets, there was tenesmus and vomiting. After trying nearly everything an enormous dose of calomel was given, and as soon as there was a movement of the bowels the child was all right.

Dr. J. E. Colburn said that some years ago he had an interesting case; in the early morning he was called to see a child whom he found breathing with great difficulty and presenting many symptoms of acute bronchitis. He listened carefully and thought he located the region of the disturbance. Leaving some remedies he went away, promising to call late in the afternoon. During his absence the family became alarmed at a change of symptoms and called in another physician, who assured them that he was mistaken; that the child had acute gastritis. When he went back in the evening the child was purging and passing blood. He made an examination and found a tumor corresponding to the tumor described to-night. He gave a grave prognosis, left directions for the use of some remedies, and promised to see the child in the morning if it was still alive. The next morning when he called the mother told him the child was better, and showed him a chicken's foot and leg that it had swallowed.

Dr. Earle asked Dr. Steele to give the statistics in regard to the use of chloroform and ether with children.

Dr. Steele, in closing the discussion, said, in regard to Dr. Earle's query as to the ease of making the diagnosis: I would say that the diagnosis is not always an easy matter, and I do not wish to convey that impression. In the first case I reported the diagnosis was easy, because the case presented the symptoms laid down in the books as nearly as could be: there was vomiting, tenesmus, bloody stools, absolute constipation and a lozenge shaped tumor—but that is the only case of the four reported in which we had all the symptoms; in two there were no tumors at all, in one the tumor was indistinct and irregular in outline. There was no pain in that case. In none of the cases was the diagnosis verified by a post-mortem. There is an element of doubt as regards the diagnosis, but it had been formed in each case after careful examination by competent physicians, and was considered fairly certain. In regard to the relative safety of ether and chloroform in children, I cannot give the statistics, but the administration of chloroform to children is a very safe procedure as compared with its administration to adults. In regard to the differential diagnosis, Dr. Waxham presented all the points very fully. In a paper of this character I did not wish to go into that subject. In regard to the operation of cutting the bowel above and below the point of obstruction, that I alluded to as an operation having been done experimentally on animals with success by Dr. Senn, of Milwaukee. So far as I know there are no statistics showing that it has been done on man. The case of obstruction occurring in a child, with painful tumor, spoken of by Dr. Hoadley, was a case of chronic obstruction in which the lumen was not perfectly occluded, and those cases are not dangerous. So long as the lumen is not absolutely interfered with the processes of nutrition go on. Cases of chronic obstruction were not considered in the paper; I spoke only of acute obstruction due to intussusception. Water passes the ileo-cæcal valve by dilatation from over-distension. I have seen the experiment tried on animals; by opening the abdomen and forcibly injecting water the colon would become distended to its utmost capacity, and by-and-by the tissues would begin to yield, the valve would become incompetent and the water would pass. The quantity of water used for injections was smaller than if the obstruction had been higher up. The case of acute obstruction mentioned by Dr. Frank, that was relieved by a large dose of calomel, was probably acute enteritis, such a case as would have been relieved by bleeding,

many years ago. When we are called to these cases of acute intestinal obstruction where there is a doubt as to its cause, we should take into consideration all the factors: the age of the child, the sex, the suddenness of the onset, the presence of a majority of symptoms that are said to be present in intussusception, and then make a thorough, complete and systematic palpation of the abdomen, aided, if necessary, by the distension of the colon with carbonic acid gas. By the alternate injection of an acid and alkaline solution into the rectum you can distend the colon so that it can be mapped out perfectly, and you can distermine the location of the obstruction.

DR. ELBERT WING exhibited some pathological specimens, and said: These specimens were obtained at the County Hospital to-day, and I bring them to you to-night because specimens are more interesting when they are fresh. The case came to the dead-house without any history except that the man was known to have some trouble with his heart. The internes were careless and no careful record was kept. The man was about 60 years old and very fat. There was no fluid in the abdominal cavity. The pericardium contained perhaps 30 cu. cm. of clear serous fluid, and the heart was considerably larger than the man's fist, with one or two of the so-called "milk spots" on the surface. The right auricle was distended with dark, partly clotted blood, the right ventricle contained a very small quantity of fluid blood and a small clot; the left auricle and ventricle were empty. Upon section the heart showed no lesion of the valves; there was slight atheroma at the base of the aorta. The endocardium showed the streaks and bands of grayish discoloration which are taken as evidence of chronic endocarditis; there was also, over the surface of the endocardium, the mottled appearance of myocarditis with fatty degeneration. The left pleural cavity was empty and without adhesions. The surface of the lung presented a few spots of emphysema, and upon section the bronchial tubes were found extremely congested and lined with a thick coat of mucus throughout the bronchial tree. On the right side there was an adhesion along the median line, and on breaking this found 3700 cu. cm. of a clear serous fluid, slightly reddish, containing no shreds and no plaques of fibrin. The entire costal pleura of this side was much thickened, of a slightly velvety appearance and bright red color, easily separated from the underlying tissue and easily torn in manipulation. The deposit of fibrin could be removed only by considerable force, and the pleural surface then showed manifold small red dots, resembling the mouths of severed capillaries. Completely covering the surface of the right lung there was a film of lymph which varied in thickness from that of a heavy sheet of blotting paper to 1 or 2 millimetres. Over the lower lobe this had taken on organization and contained bands of connective tissue. Throughout the extent of the visceral layer of the pleura it could be removed, leaving the surface smooth and glistening. The lung on the cut surfaces is of a steel-gray mottled with spots of pigment discoloration. It is completely devoid of air, and a piece cut out from it and thrown into the water sinks. Upon the superior border of the spleen there is a small plaque in which the connective tissue of the capsule is largely increased. The cut surface of the organ presents a mahogany color and as a whole is quite firm, verifying the diagnosis of what we would expect to find in such cases, chronic passive hyperæmia of the spleen causing an increase of the connective tissue. The kidneys were hardly enlarged at all, the capsule was not thickened and was easily removed. Upon section the cut surfaces of each of the organs was a very dark red color, the vessels all full of dark-colored blood, and the organs slightly firmer than normal. The left lobe of the liver presented a peculiar appearance. It looks and feels a little granular, and that seems to be due to a wrinkling of the capsule. There was a similar appearance along the anterior border, and near the line of the suspensory ligament. This large spot was triangular upon the surface, say 5 cm. along each side, and extended into the organ in a pyramidal shape, the apex being near the hylus of the organ. The line of demarcation between this wrinkled and the unchanged surface of the organ is sharply defined. On section these portions of the organ present the characteristic appearance of advanced simple atrophy, a dark brown slate-color, the lobule distinct but very much diminished in size. That portion of the organ not described is in the condition known as "nutmeg liver." The omentum is in a condition rarely seen. It is $25 \times 12 \times 1.5$ cm., somewhat lobulated, and along the anterior surface there are broad radiating bands of fibrous tissue. The organ as a whole is very firm and solid, and on section little lobules of fatty tissue can be isolated. The condition is that of marked hypertrophy of the fatty tissue of the organ, together with a great increase of the connective tissue, the latter due to chronic passive hyperæmia, the former part of the general marked increase of adipose tissue throughout the body. There was also considerable œdema of the right leg, but no thrombosis in the iliac vein. Examination of the veins outside of the abdominal cavities not permitted. With the conditions described as a basis, the diagnosis is: chronic endo-myocarditis with fatty degeneration; chronic pleuritis (costal) with effusion, atalectasis from compression, right side; chronic passive hyperæmia of spleen, kidneys and liver, with added circumscribed simple atrophy of the latter; hypertrophy and chronic passive hyperæmia of the omentum; chronic venous thrombosis with œdema of the right leg.

(To be concluded.)

CHICAGO GYNÆCOLOGICAL SOCIETY.

Stated Meeting, Friday, February 18, 1887.

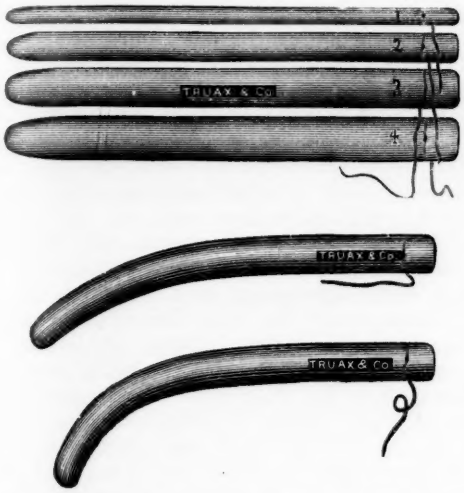
PHILIP ADOLPHUS, M.D., IN THE CHAIR.

DR. HENRY T. BYFORD made the following remarks on

THE SLIPPERY ELM TENT.

For quite a number of years, I have been using slippery elm tents in the treatment of uterine disease.

Within the last few weeks, I have received from Messrs. Charles Truax and Co., of this city, some improved tents made out of the compressed bark. By compression, its dilating power is increased so as to render it useful as a substitute for tupelo, sea-tangle and compressed sponge in many cases.



The characteristic of slippery elm bark is that upon being moistened a slippery substance exudes, which acts both as a lubricant to the tent, and as a protection to the mucous membrane against that injury or abrasion which sometimes follows the use of dilators of this class. Another advantage is the rapidity of its action. The tents expand sufficiently within an hour or two for the introduction of a larger size, or two or three of the same size. This may be repeated until the desired dilatation is obtained, and since the expanded tents are both soft and slimy, with a minimum amount of injury to the parts.

A small elm tent may be introduced at the office and left for twelve or twenty-four hours and thus serve, providing it be used once or twice a week, as a mild substitute for the intra-uterine stem in cases of sterility. The patient can go home and keep quiet until she removes it by the attached string, upon the advent of severe pain, or at the end of the twenty-four hours. A glycerine tampon placed under the cervix is necessary in such cases to retain it in place.

These tents are also available as applicators, for the exuding lime carries the drug out from them instead of into them, gradually dilutes it, and thus limits its action.

As dilators and applicators in vaginitis, vaginismus, urethritis, urethral stricture, etc., they are also useful, and may be ordered of any size, shape or curve desirable.

They should be kept in a tightly covered box or bottle, as they become brittle and lose their rapid expansive power when they get too dry. It would be a good thing to dip them in gelatine or cocoa butter when they are to be preserved for a long time.

Dr. A. Reeves Jackson: I have used slippery elm tents a great many years, and I have no doubt that the form in which they are now presented by Dr. Byford will render them more suitable for dilating purposes than heretofore. In this form, however, I have made use of them recently, and have been disappointed as regards their dilating power. Slippery elm forms a slimy mass at the expense of its substance, and while this mucilaginous mass and the mucous discharge which appears with it causes the tent to seem large, the latter does not exert much dilating power, and I was surprised to find that after moistening one of these compressed tents for several hours in water, it was very little larger than before. I have had a great deal of satisfaction in using flat pieces whittled out of the slippery elm bark, in the following manner: I use a small sponge tent, and in order to get the expansive power of that material surround it with a cordon of these slips, so as to protect the mucous membrane from injury. I think that in the combination of sponge tent and slippery elm we have the best means for tent dilatation. In this way we get the dilating power of the sponge with the protective effect of the slippery elm.

In cases which stenosis seem to be the cause of sterility, I use non-expansive stem pessaries. My experience in the use of the intra-uterine stem has been very large, and I find, in order to effect any change of structure, that it is usually necessary to carry out the treatment for many months. I have never succeeded in changing materially and permanently the direction of the cervical canal in less than six or eight weeks, and sometimes over a year has been required. The stem may remain undisturbed for many months. This makes a great difference to the patient, who otherwise is obliged to have the instrument changed frequently. I use chiefly a very flexible soft rubber stem, which may be introduced and worn for months without irritation. It may be of different degrees of flexibility, a very small one at first and of very slight straightening power, and by and by another, larger and stiffer, and so on until at the end of some weeks or months the desired change is produced. I think the use of a substance that is not absorbent and does not dilate superior in these cases.

Dr. H. T. Byford: I have had many cases of sterility of several years' standing, dating from marriage, cured by three or four or more small tents used once or twice a week. Their power is milder than that of compressed sponge, and less radical than that of the intra-uterine pessary. These negative qualities are the accompaniments of nearly all safe remedies. If Dr. Jackson had watched the compressed elm tent, which seemed to expand so little in several hours, he would have found that it expanded two or three times its own diameter in less than two hours, and then became smaller again by having its softer portion dissolved out. In the uterus its substance is not washed away as rapidly as in a basin.

Dr. W. W. Jaggard exhibited a

PLACENTA WITH MARGINAL INSERTION OF AN ABSOLUTELY SHORT UMBILICAL CORD, MEASURING NINE INCHES IN LENGTH.

The specimen, placed at his disposal by Dr.

Charles Caldwell, was of interest in connection with Dr. John Bartlett's paper, read at the January meeting. The absolute shortness of the cord in Dr. Caldwell's case did not constitute a mechanical hindrance to the progress of labor, although there was some slight difficulty in ligaturing the organ, after birth of the child, on account of the proximity of the navel of the child to the vulvar orifice of the mother.

DR. JAGGARD also made some remarks on

THE ANTISEPTIC OBSTETRICAL PADS OF DR. H. J. GARRIGUES AND DR. WM. L. RICHARDSON.

Dr. H. J. Garrigues describes the application of the pad in the following words: The well closed vulva is covered with a pad of absorbent cotton, wrung out in the solution (1,2000). Outside of that comes a piece of oiled silk or preferably thick gutta-percha tissue dipped in the solution. To keep this antiseptic part of the dressing in place I use a large pad of dry absorbent cotton, and a rectangular piece of canton flannel or square piece of unbleached muslin, half a yard in both directions, and folded diagonally like a cravat. Dr. Wm. L. Richardson substitutes absorbent scrap or waste done up in cheese cloth for the absorbent cotton. Of course, Dr. Richardson does not insist upon the pad as essential. There is nothing peculiar about the pad except that it seems to me to be a very convenient and safe form of dressing to use. The main thing is the use of antiseptics all through the delivery, and the pad is all that is needed for the convalescence.

The important services, rendered to the profession and community, in the prophylaxis of child-bed fever, by Garrigues and Richardson, demand recognition. In the New York Maternity Hospital the mortality from sepsis—Oct. 1, 1882, Oct. 1, 1883, 429 patients—was 6.06 per centum. Garrigues has reduced this mortality to—Oct 1, 1885, Oct. 1, 1886, 463 patients—21 per centum.

In the Boston Lying-In Hospital, the mortality from sepsis, Jan. 1, 1882, Dec. 31, 1882, 288 patients—was 5.55 per centum. Richardson has reduced this mortality to—Jan. 1886, 373 cases—.0 per centum.

The American woman insists upon wearing some kind of a napkin to absorb the lochia. If she wear one at all, it must be antiseptic.

(To be continued.)

DOMESTIC CORRESPONDENCE

GALVANIC MEASUREMENT.

Dear Sir:—The enterprising spirit of Dr. Engelmann, as exhibited in his letter to THE JOURNAL of April 16, in which he criticises me for statements in reply to Dr. Cutter's letter in THE JOURNAL of February 5, is really very refreshing.

First, he says: "In No. 7, February 12, 1887, p. 195, Dr. Martin tells us that he has used from 25 milliampères to 10 ampères through a fibroid tumor, with one surface electrode and without causing pain enough to require an anæsthetic. Ten ampères . . . would scorch the body as would a stroke of lightning. This is impossible." Dr. Engelmann continues on this line: "No man ever has or ever will pass 10 ampères through living tissue, as this would scorch the skin and destroy the activity of the nerve tissue." I would like to inquire as to the kind of scientific man who dares to make such unqualified statements in regard to the past, and assert such absolute prophesies of limitations in regard to the future of a subject which all unbiased minds admit is but in its infancy! It is with reluctance that I must remind him that for once he occupies the position which the scientific world did when it "was astonished when Apostoli employed 100 milliampères, which he has increased to a possible 250 with one surface electrode." Here, in Chicago, by means of our improved abdominal electrode of very large surface, the principles of which I described in a paper to the Chicago Medical Society December 20, 1886, an abstract of which appeared in THE JOURNAL of January 15, 1887, and the full text of which appears in this week's number of THE JOURNAL, I have frequently used a current of 500 to 1,000 milliampères without an anæsthetic, without severe pain, and with the same surface electrode double, I have used on one tumor, with very great depth of uterus, a current of 10 ampères; and this, too, without an anæsthetic, without "giving excessive pain;" without "burning the integument;" without scorching the skin and without "destroying the activity of the nerve tissue."

Secondly—Dr. Engelmann says: "I am glad to see that Dr. Martin is seeking to define and record his treatment more accurately." I am surely very much gratified to have the fact duly recorded that he notes signs of improvement in my later writings, be they ever so slight; because to admit no progress would be to infer retrogression. At the same time, I am willing to have my first paper on electrolysis thoroughly examined, by an impartial critic, for any loose or inaccurate statements.

Thirdly—Dr. Engelmann further modestly remarks: "It is a satisfaction to me to see that he (Dr. Martin) has accepted my criticism of his paper which I made before the Section of Obstetrics and Diseases of Women at the St. Louis meeting of the American Medical Association in 1886." "I then urged," he continues, "the importance of the galvanometer and the necessity of exact measurements, strong currents, and short sittings." If Dr. Engelmann remembers—and if he does not a perusal of my paper referred to may serve to freshen his memory—he will find that the above advice was entirely superfluous so far as it was applicable to me, with the exception of his reference to stronger intensity. In regard to this latter point I will confess, in order not to seem under too great obligations to Dr. Engelmann, that I had heard of Apostoli, and had investigated pretty thoroughly his method and recognized its advantages, long before I ever had the honor of hearing Dr. Engelmann's views.

Finally, I will state, in order to more definitely define my present position, that I am obtaining very gratifying results in the treatment of fibroid tumors

by a modification of Dr. Apostoli's method. By the employment of improved surface electrodes by which the current is widely diffused, by which the complete adaptability of the surface of the electrode to the surface of the body is accomplished, by which the minimum resistance is obtained consistent with minimum pain, I have been able, as stated above, to use a current of much higher intensity than Dr. Apostoli, or even Dr. Engelmann. The current that I ordinarily employ now varies, according to indications in different subjects, from 100 to 1,000 milliampères, and this without ever arousing one alarming symptom. Respectfully yours,

FRANKLIN H. MARTIN, M.D.

163 State St., Chicago, April 8, 1887.

NECROLOGY.

DANIEL DRAKE CARTER.

DANIEL DRAKE CARTER, M.D., of Versailles, Woodford Co., Kentucky, was born in that place, October 12, 1837, died of congestion of the lungs at the residence of his mother, in Versailles, December 12, 1886. He was the son of Dr. Joseph Coleman Carter, who was born in Charlottesville, Va., December 23, 1808. A kinsman on his mother's side of Dr. Daniel Drake with whom he studied medicine. He took his medical degree at Jefferson Medical College, Philadelphia, Pa., 1831. Died January 26, 1876.

His grandparents on his father's side were Goodloe and Mary (Crenshaw) Carter. He was therefore descended from the eminent Robert Carter, of "Carter's Hall," Virginia. The mother of the subject of this notice, still living at the age of 77, is the youngest daughter of George Carlyle and the granddaughter of Robert Carlyle, who came to Virginia from Scotland, in 1730. George Carlyle removed from Virginia to what is now known as Woodford Co., Kentucky, in 1784, and in 1790 married Margaret Crockett, daughter of Alexander Crockett. George Carlyle died in 1827, aged 73 years. This branch of the Carlyle family is somewhat noted for longevity, as five sisters and one brother of Dr. Carter's mother lived to celebrate their golden wedding. Dr. Daniel Drake Carter, the subject of this note, was of delicate constitution from infancy. In consequence of this his education was mainly conducted by his father, or at home schools, the village academy and by private tutors. With a view to strengthening his constitution his father had him spend as much time as possible in the summer seasons on his farm, near Versailles, and endeavored to have him become interested in agricultural pursuits. Knowing the severe labor and exposure attending the practice of medicine in that section, he did not wish his son to enter the medical profession. Dr. Joseph C. Carter was a scholarly man, who enjoyed and deserved a large practice, and had his residence been in a populous city, his proficiency in chemistry and the natural sciences would have of themselves won him a place among the leading teachers and scientists of his day. While attending a large country practice he therefore made his desultory studies and observations in geology and botany a sort of recreation. His love of study and high appreciation of scientific education made him the more solicitous to secure a good education for his son. This was not a difficult task, for from his early youth he took to books and rapidly acquired knowledge. But notwithstanding the father desired him to select some profession or pursuit other than that of medicine, his son adopted physic after mature deliberation, preferring it to any other calling.

Before Dr. Carter began the regular study of medicine his father made a most advantageous business arrangement for him with a firm of bankers at Davenport, Iowa, where he spent one year. Drake, as he was familiarly known, then made known to his father that he earnestly desired to study medicine and pursue the practice notwithstanding all the exposure and exactions attending a physician's life. Returning home, he at once entered upon its systematic study with his father. In 1859, he entered the Long Island College Hospital, New York, for the spring or reading term. He also returned the following year. His tickets to the course in practical chemistry bearing date March 29, 1860, and for 1861, now lie before me. The second was, however, abruptly terminated by the medical students of the South withdrawing from the College and returning to their homes, owing to the political excitement and the beligerent attitude assumed by the Southern and Northern States toward each other. Dr. Carter at once returned to Kentucky, and matriculated in the University of Louisville where he attended lectures the remainder of the season, and was examined and received his diploma at the commencement in January, 1862.

He wrote his thesis on "The Blood, its Source and its Function." Dr. Carter warmly espoused the cause of the South, and without going to his home accepted the position of surgeon in the 5th Kentucky Cavalry under Col. Howard Smith, in the command of Gen. Buford. He also served as brigade surgeon on the staff of Gen. John H. Morgan, and was captured at Buffington's Island in the Ohio river, in July, 1863, as was most of that command. After having been paroled he went to the City of New York, where he resumed his medical studies with his warm personal friends Drs. James R. Wood and Lewis A. Sayre. He spent the winter in the hospitals and at the Clinics of Profs. Wood, Sayre, Flint and of other leading teachers in that city. In the spring of 1864 he grew impatient and could no longer remain idle while his friends in the South were putting forth all their energies to repel coercion and maintain their sovereignty. Not being able to pass through the army lines to the South, he went to Halifax and from thence sailed in a blockade runner for Wilmington, N. C., hoping to get into the Southern Confederacy and render such services as he could to aid the cause. The vessel, however, was captured just as she was entering port. He was one of three on board who would not swear that they were

British subjects, and was consequently sent as a prisoner to Fort Lafayette, New York, and afterwards transferred to Fort Warren, Boston harbor, where he was kept as a prisoner of war until May, 1865.

Dr. Carter, on regaining his liberty, returned home and immediately entered upon the practice of his profession in conjunction with his father. The young doctor was well prepared by extensive reading, careful college and hospital training, to discharge the responsible duties of a physician. He was most enthusiastically devoted both to the study and the practice of medicine. His efficiency and zeal soon won for him an extensive and lucrative business. He was a man of high culture, gentle in disposition, courteous and dignified in his intercourse with patients and his medical brethren; fond of music and the fine arts and of cultured society. He was strictly temperate, never using tobacco or intoxicating liquors. And what is rather uncommon with physicians a good business man, collecting his earnings and invested his means with rare judgment. He was a consistent member of the Presbyterian Church from his youth. His parents and grandparents on both sides belonged to the same religious denomination.

Although Dr. Carter was of slight frame, he possessed much mental activity and great physical endurance. The amount of labor he was capable of performing was a surprise to all his friends. He possessed special aptitude for surgery, having a comprehensive and an accurate knowledge of anatomy and physiology, and the dexterity, courage and fortitude so essential to make the successful operator. He performed with success some capital and hazardous operations in the circuit of his practice, rarely undertaken except by specialists in well organized hospitals. His neighboring physicians, too, had a high regard for his judgment in difficult cases, and frequently called him in consultations. His great forte was at the bedside, where his real genius showed itself in diagnosis and in the suggestions of new methods and in giving encouragement and comfort to the despondent patient. For a busy rural practitioner he made an unusual number of post-mortem examinations, and was, to the close of his busy life, a student and a careful observer, and would undergo any amount of labor to verify or disprove the diagnosis of an obscure case. The writer of this sketch was for a time, in 1875, somewhat out of health, and having accepted an invitation to rest a couple of weeks at one of Kentucky's most hospitable of homes, on the splendid estate of "Spring Hill," near Versailles, where he became well acquainted with the subject of this sketch. Here he met daily and often during the day, Dr. Carter, then in excellent health, and in the enjoyment of a full practice. The high opinion then formed of Dr. Carter as a skillful physician and affable gentleman, the universal esteem in which it is evident his memory is held by the profession in Kentucky, has been fully justified. We visited the celebrated stock farm of Mr. Alexander, known as Woodburn, and together attended the burial of the great race horse "Lexington," whose skeleton was obtained from the owner on my application and Dr. Carter's intercession, and is now handsomely mounted and forms a part of the great collection of comparative anatomy in the Smithsonian Institute, in Washington, D. C.

In 1875, Dr. Carter met with an accident while performing a surgical operation by wounding the index finger of the left hand, and from which he suffered blood-poisoning. This accident and its results for a time alarmed his friends and did seriously impair his health, and it is probable that he never entirely recovered his full degree of vigor afterwards. In the fall of the same year he suffered an attack of bilious fever, which ran a more than ordinarily protracted course, from which he, however, slowly recovered.

In 1876, he had an attack of pneumonia which still farther debilitated him. His practice was at that period large, and being ambitious, he overworked and entirely neglected himself. Although he continued to labor efficiently for years, he nevertheless labored at a disadvantage from a naturally delicate constitution which was farther impaired by disease.

Dr. Carter was twice married. His first wife was Miss Louisiana Hart Gibson, a most lovely and accomplished lady, the sister of Senator Randall L. Gibson, of Louisiana, to whom he was united February 15, 1876. She survived her marriage by but one year, dying February 14, 1877, leaving a daughter, who followed its mother to the spirit land April 12, 1880. His second marriage was on the 31st of October, 1882, to Miss Sallie, daughter of Humphrey and Elizabeth (Scott) Fullerton, of Chillicothe, Ohio. From this union one child, a son, Joseph C. Carter, was born July 28, 1884, who, with his mother, survives. Dr. Carter's mother and three sisters survive him. During the later years of the doctor's life, he attempted to lessen his professional labors and retired to his farm, "Rock Castle," but his patrons followed him there and he was obliged to seek rest at a distance. He made three pilgrimages to Florida for his health. In April, 1886, he had an acute attack of double pneumonia, which seriously impaired his health and alarmed his friends, and after spending some time on his farm was advised to go to Asheville, N. C. This change brought no relief, but added to his suffering and discomfort, and he returned home, where he received every attention from medical friends and from a devoted wife, his mother and sisters, until his soul returned peacefully to the Giver of life.

Dr. Carter was a member of the Kentucky State Medical Society and was sent by it as a delegate to the American Medical Association in 1872; he also attended the meetings in 1873, 1874, and 1875. He was a member of the Masonic order and a Knight Templar of the Commandery of Versailles. This Commandery held a special meeting and passed a series of appropriate resolutions of respect for his worth, and of sympathy for his bereaved family, which were published in the Versailles paper.

His funeral took place from his late residence and that of his mother, in Versailles, on Wednesday the 15th of December, 1886. The services were solemn and impressive, and were largely attended by the community which sincerely mourned the loss of a good citizen and a beloved physician. J. M. T.

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COMMITTEE OF ARRANGEMENTS.

The following memorandum is published by order of the local Committee of Arrangements for the information of persons desiring to attend the Ninth Meeting of the International Medical Congress, in Washington, D. C., in 1887:

RATES OF TRANSPORTATION.

Red Star Line, $100; Antwerp to New York and return.

Inman Line, $100; Liverpool to New York and return.

Hamburg Line, $90; Hamburg to New York and return.

Royal Netherlands, $80; Amsterdam to New York and return.

North German Lloyd Line, $187.50; Bremen to New York and return.

Same rates are allowed for the families of members.

Cunard Line, 10 per cent. reduction for members of the Congress only.

HOTEL RATES IN WASHINGTON.

Arlington Hotel, from $3.00 to $3.50 per day.
Riggs House, from $3.00 to $3.50 per day.
Willard's Hotel, from $3.00 to $3.50 per day.
Metropolitan Hotel, $3.00 per day.
National Hotel, $3.00 per day.

Other hotels conducted on European style will furnish rooms at $1.00 to $2.00 a day. Good lodging-houses will also furnish rooms from $1.00 to $1.50 a day.

Proper accommodations have been secured for the meeting places of the Congress and its Sections.

Transportation within the limits of the United States has not yet been determined upon, but will soon be made public. Particulars of the plan of entertainments will be published in the official programme, and all notices will be published in THE JOURNAL in due time.

Official: A. Y. P. GARNETT, *Chairman.*
C. H. A. KLEINSCHMIDT, *Secretary.*

BOOK REVIEWS.

A TEXT BOOK OF MEDICINE for Students and Practitioners. By DR. ADOLPH STRÜMPELL, formerly Professor and Director of the Medical Policlinic at the University of Leipsic. Translated from the second and third editions by HERMAN F. VICKERY, A.B., M.D., and PHILIP COOMBS KNAPP, A.M., M.D., with editorial notes by FREDERICK C. SHATTUCK, A.M., M.D., Instructor in the Theory and Practice of Medicine in Harvard Medical School. With 111 Illustrations. 8vo., pp. 981. New York: D. Appleton & Co. 1887. Chicago, A. C. McClurg & Co.

This is one of the most compact and yet full treatises

that has appeared on this subject during the last four years. The work has been very popular in Germany, having rapidly gone through three editions there. The characteristics of the work are conciseness and completeness, coupled with a presentation of the most recent and best views concerning etiology and pathology. The clinical history of diseases is clearly and well described. In many ways the treatment advocated differs from that followed in this country.

The topics taken up are described in the following order: Acute General Infectious Diseases; Diseases of the Respiratory Organs; Diseases of the Circulatory Organs; Diseases of the Digestive Organs; Diseases of the Nervous System; Diseases of the Kidneys, the Pelvis of the Kidney and the Bladder; Diseases of the Organs of Locomotion; Diseases Affecting the Blood and Tissue Metamorphosis.

The section devoted to nervous diseases is very complete and presents in a collected form the latest information pertaining to the subject.

In reading the volume through many thoughts are noticed that have not yet found their way into the American text-books generally. The author adopts freely the most advanced views of the bacteriologists, accepting as facts what in this country are regarded as still under judgment. To illustrate, the following is the first sentence under the head of etiology of acute articular rheumatism: "Acute articular rheumatism is an infectious disease. This is shown by all clinical and anatomical peculiarities of the disease; and although the specific organic pathogenic poison cannot yet be demonstrated, still this view of the disease, which was first brought forward by Hüter is the only one which enables us properly to understand its symptoms and course."

The book is a valuble addition to medical literature, as it gives us in a compact and yet comprehensive manner the best and most recent views of the most famous German physicians.

MISCELLANEOUS.

THE MURPHY TENEMENT BILL.—The New York Legislature has passed what is known as Murphy's Tenement bill. It provides for the detail of fifteen policemen to enforce the sanitary code of New York city, so far as it relates to tenement and lodging houses. The Board of Health is to make a report annually upon its work. The Mayor, one Commissioner of Health, the Commissioner of Public Works, one delegate from the Bureau of Inspection of Buildings, and the Street Cleaning Commissioner shall meet annually between Nov. 15 and Dec. 30 to consider the subject of tenement and lodging houses in New York and make such recommendations for the change of the laws as will best protect the interests of the people, which are to be made to the Governor and Legislature before Jan. 15. The bill provides that certain conditions must be observed by owners of tenements. Some of these are that where more than one family reside on a floor the halls must open directly to the outside air with sufficient windows and without obstruction to ventilation. Each tenement-house shall be provided with such privy sinks as the Board of Health may require, one for every fifteen occupants in lodging-houses, and one for every two families in dwelling-houses, which shall be plumbed properly and be adequately ventilated; all such receptacles shall be connected with the sewer by air-tight pipes as directed by the Board of Health. The law also contains a provision that every owner of a tenement or lodging-house must file with the Health Department his name and address; a description of the property by street numbers, the number of apartments, the rooms in each apartment, the number of families occupying each apartment, and the trades or occupations carried on in them. In case notices are served for the abatement of nuisances, they shall be posted five days in the house and mailed to the owner also. The law requires a semi-annual inspection by the Board of Health of all tenements and lodging-houses, and in case the owner fails to comply with the rules of the Board of Health, any court of record is authorized to issue injunctions restraining the owner. Water is to be plentifully supplied on each floor, and cellars shall be concreted and made water-tight. The bill is a long one and embodies the experience of New York sanitarians with this vexed question.—*Sanitary News*, April 2, 1887.

MEDICAL ASSOCIATION OF THE DISTRICT OF COLUMBIA.—At the regular meeting of this Association held April 5, 1887, the following officers were elected for the ensuing year: President, Dr. J. W. Buckley; Vice-Presidents, Drs. J. W. Bayne and W. O. Baldwin; Secretary, Dr. Lachlan Tyler; and Treasurer, Dr. S. S. Adams.

CHICAGO MEDICAL SOCIETY.—At the annual meeting of this Society, held at the Grand Pacific Hotel, April 4, 1887, the following officers were elected for the year: President, Dr. Wm. T. Belfield; Vice-Presidents, Dr. J. H. Etheridge and Dr. A. E. Hoadley; Secretary, Dr. Frank Billings; and Treasurer, Dr. H. N. Moyer.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 9, 1887, TO APRIL 15, 1887.

Capt. Jno. J. Kane, Asst. Surgeon, resigned April 13, 1887. S. O. 85, A. G. O., April 13, 1887.

Capt. Chas. Richard, Asst. Surgeon, granted two months' leave of absence, on surgeon's certificate of disability. S. O. 82, A. G. O., April 9, 1887.

First Lieut. Freeman V. Walker, Asst. Surgeon, ordered from Ft. McIntosh, Texas, to Post of San Antonio, Texas. S. O. 45, Dept. Texas, April 11, 1887.

The Army Medical Board, New York City, N. Y., is dissolved. S. O. 82, A. G. O., April 9, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING APRIL 16, 1887.

Griffiths, S. H. P. A. Surgeon, detached from the U. S. S. "Lancaster," and waiting orders.

Hibbett, C. T., P. A. Surgeon, detached from duty on iron-clads, City Point, Va., and waiting orders.

Marsteller, E. H., P. A. Surgeon, ordered to duty on iron-clads at City Point, Va., the 20th inst.